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Chemical Trade Journal
Supplement, Oct. 22, 1898.

THE

CHEMICAL TRADE JOURNAL:

A WEEKLY NEWSPAPER DEVOTED TO

The Commercial Aspect of the Chemical and Allied Industries.

EDITED BY

GEORGE E. DAVIS,

FORMERLY ONE OF HER MAJESTY'S INSPECTORS OF ALKALI WORKS,
CHEMICAL ENGINEER AND CONSULTING CHEMIST.

VOLUME XXII.

[JANUARY TO JUNE, 1898.]

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Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their nams, and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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PAST, PRESENT, AND FUTURE.

THOSE of our readers who know their "Dickens" will pardon our bringing before them the mangle scene in which Mr. Mantalini figures, and the expressions of this gentleman as overheard by Nicholas Nickleby—"I am always turning. I am perpetually turning, like a demd old horse in a demnition mill. My life is one demd horrid grind."

Mr. Mantalini's life was what he made it, but the candid expressions of this worthy apply most accurately to the present state of

THE ALKALI TRADE.

Ever since the January of 1897 prices have fallen, stocks have accumulated, prices of raw materials have risen, and more stuff has been put on to the market than the market knows what to do with. Works have been stopped and put upon short time, but no recovery seems within measurable distance.

The *sulphuric acid* works of the country have been kept going fairly well, but the price obtainable for the article has ruled lower than it has been for years. Some advantage has been gained in the price of pyrites and nitrate of soda, but the advantage has disappeared in the lower prices of the finished products.

The *salt cake* trade has been fairly steady; the loss in making it has kept pretty nearly at 12s. per ton, and it remains to be seen how long manufacturers will be satisfied with working at a loss. Salt has been sold at shillings per ton cheaper for 1898 delivery, but it is believed that the contracts for full over 1898 have been made at an advance.

"Poor *Bleach*," writes one of our correspondents, "I wonder how many works will be making at a profit this year?" In the whole of the bleaching powder industry there is not one single advantage that has been secured for 1898. During the past year profits, if any, have been small, sales difficult to make, and at ever decreasing prices; so that the market has not held its own. In fact, during the past few months the bleaching powder industry has been turned completely topsy-turvy. The advent of bleach made by the Castner-Kellner process at Weston Point, near Runcorn, was the sign to let slip the dogs of war, so that while £5. 18s. 6d. could be obtained in September last, a quantity has now been purchased at £4. 15s., and some say even less. This is not a genuine manufacturing figure, however, as the whole of the output from Weston Point has been purchased by the Solvay syndicate at about £5. 17s. 6d., and it is this syndicate that is so philanthropically giving paper makers and bleachers their requirements at less than cost price.

The making of bleaching powder has not yet been successfully accomplished in America, but the States may congratulate themselves upon their increase of output in *ammonia soda*. The No. 2 works of the Michigan Alkali Company, near Detroit (two miles nearer Detroit than the old works), is in full swing, and making three hundred tons

of ammonia soda per day, all of which must tell upon the exports of this country. Some amalgamation of interests is bound to take place, sooner or later, between the old concerns and the new, but not in J. B. Ford's lifetime (see *C.T.J.* 513, p. 205). The Solvay Company have also increased their working capacity this year, by about 150 tons per day.

There is nothing new to record in the ammonia soda or in the *caustic soda* industry in England; in fact, all interest is concentrated in America, and poor Lancashire is nowhere. As a proof of this, our correspondent in the States wrote us in June last to say that there was much talk around Detroit of the United Alkali Company starting to build works at Wyandotte. Our latest report is that they bought the ground some time back, and have put down some test wells for salt. The salt there is "rock," and the brine is made on the double tube system. The site lies between Ford's two works.

We do not know whether ammonia soda is to be the ultimate product at the new works of the Solvay Company, but at Ford's No. 2 works, close by, *bicarbonate of soda* is being made, and the Solvay Company are now producing nearly 700 tons of caustic soda weekly. The Michigan Alkali Co. are also making 400 tons per week, and there is, besides, Matthieson's plant in Virginia.

With all this in view, what is to become of the alkali trade in England? Can the English makers work as cheaply as their brethren in the States, and is there a market for all this increased production? Some would shew faith by answering this last query in the affirmative, but something more than faith is requisite—it is necessary for all the new works to manufacture much more cheaply than the old ones, and to have behind them a good lay-by of capital, which most of the older works do not possess.

The *electric processes* for the production of bleach and alkali we shall not touch upon; we would rather see a few balance sheets first. Bleach is now being made industrially by the nitric acid process in at least two works, and the process is said to be working satisfactorily.

On the whole, the outlook for 1898 is a bad one; and if we do not hear of production being greatly curtailed, we shall be very much surprised.

TAR AND AMMONIA PRODUCTS.

There has been much to disappoint in the course of the tar products market during the past year, versatility having been the predominating characteristic. Nevertheless, though things may not be quite the same as they used to be in those "good old times," of which so much is heard and so little recorded, the prices of certain products have kept steady to a satisfactory degree.

Benzols perhaps have been the most eccentric of all the tar products. The higher prices prevailing at the close of 1896 gradually dwindled away during the whole of 1897. The record of 90's has been far more erratic than that of 50/90's. Opening the year at 3s. to 3s. 6d. for 90's and 3s. for 50/90's, these prices proved to be the highest experienced during the year. Values were gradually whittled down until, in April, 50/90's were dearer than 90's, at 2s. 4½d., as against 2s. 2d. During May prices continued to fall until 1s. 6d. and 1s. 11d. was reached for 90's and 50/90's respectively. In June there was a slight improvement, and in the opening days of July 90's once more gained the ascendancy over 50/90's. Before the close of the month, however, they were both on a par, at 2s. 1d. Thenceforward 90's gradually declined, and 50/90's remained fairly steady until the close of December, when there was only 1½d. between the two, at 1s. 7d. for 90's and 1s. 8½d. for 50/90's.

Naphthas have been much firmer as compared with 1896. The price of crude (30% at 120°) hardly fell below the maximum price reached in 1896. For the first four months of the year 1s. 1d. was the nearest value. At the end of May there was a fall of 2d., but the price remained at 11d. until the beginning of October, when there was a further reduction of a penny. The closing price for December was 9½d. to 10d. Practically the same may be said of solvent (90% at 160°). Opening at 1s. d. to 1s. 8d., this price held good right up to the end of June, when 1s. 6½d. was recorded. In August, however, 1s. 7d. was again reached; and this improvement was augmented in November, so that by December the closing price was the same as at the opening of the year, namely, 1s. 8d. *Carbolic acids* have been much firmer, prices as a whole having ruled higher than those obtaining in 1896, although 8½d., the top price in that year, was never actually reached. Crystals (40%) opening at 7½d. gained a ½d. in February, touching 8d. in April and 8¼d. in May. By July 7½d. was again current value, and the article remained steady thereat up to the end of October. In November, first 6¾d and then 6¾d. was touched, this being the nearest approach to 6½d., which was lowest price in 1896. With the closing month of the year 7¼d. was again reached. Crude carbolic (60%) shows even a better record, for the price of 2s. 1d., which was closing value in 1896, soon gave place to 2s. 4d., and in March 2s. 5d. was reached. In April 2s. 7d., the record price for the year, was touched, and was followed by some rather sudden fluctuations between 2s. and 2s. 7d. during May and June, so that, with the advent of July, 1s. 11d. became the current value. During the next three months the market was weaker, the price going down to 1s. 10d. With November, however, 2s. was again reached, and the year closed on this figure.

Sulphate of Ammonia has not disappointed us. We did not deem it rash to prophesy better things when reviewing the position last January (*C.T.J.* 502, p. 2), and our anticipations have been fulfilled. Confining our attention to London quotations, it seems that the lowest price has been £7. 8s. 9d., as compared with about £7. 2s. 6d. in 1896, and the highest £9. 5s., as against £8. 12s. 6d. in the same year. Opening value was £7. 17s. 6d., which was shortly followed by £8. February passed at £7. 15s. to £7. 17s. 6d. In March £8. held good, but there was a relapse in April, the price falling to £7. 15s., and yet again to £7. 8s. 9d. By May, however, £7. 11s. 3d. was reached once more, and £7. 10s. was nearest price up to the end of August, when there was a rise of 2s. 6d. From this point onwards the progress has been constant. September closed on £8. 2s. 6d., October on £8. 7s. 6d., November on £8. 17s. 6d., and the New Year has begun at the more encouraging price of £9. This steady improvement, coupled with the fact that the exports show an increase of over 25,000 tons, and backed by the endeavours of the committee that has been formed to make sulphate better known and appreciated, at least constitute one substantial morsel of comfort and consolation among the all too-prevalent evidences of depression in the chemical trades.

THE MANURE TRADE.

There has been but little amelioration in agricultural depression to help this branch of the chemical trade, but, for all that, the use of chemical fertilizers seems to be steadily progressing. In point of fact, we are not altogether averse to the belief that this very depression has been instrumental in fostering their use, by compelling farmers to seek for more economical and speedier methods of producing heavy crops. Interest has centred round the positions of sulphate and

nitrate. The former has been showing greater activity, and, under the care of the committee referred to above, should play a lively part among nitrogenous fertilizers during the present year.

Nitrate of Soda has, financially speaking, been under a cloud. The collapse of the Combine, the lowness of prices, and the prospect of increased production, are not hope-inspiring prospects for dividend seekers. No doubt the stress of competition will in due course weed out the weaklings, and so reduce the output, after which somewhat painful interval a substantial advance in price will most probably be witnessed—aided, possibly, by another "Convenio." The details of the movements of prices in fertilizing materials are always chronicled in the special review of the manure trade, which appears in our columns every year, but it is interesting to note how *Guanos* are once more finding considerable favour. *Basic slag* still holds its own as a source of slow-acting phosphoric acid; while "*supers*" have not only moved well as a source of soluble phosphates, but are likely to become even more popular as the home consumption of sulphate increases. The sources of supply for raw phosphatic materials have undergone many changes, but the net amount imported does not seem to vary very much. *Nitragin* has established some of the claims which were made for it in 1896, but the past year has done nothing more for it than to show by pot and plot trials that it is worthy of further attention. So far, it still remains in the experimental stage, and is likely to until farmers become educated up to the methods by which its high potentialities can alone be economically utilized. *Potash salts* have been very steady in price all through the year, and show no signs of flagging.

Several agencies have operated favourably for that sister-trade of making insecticides, not the least of which has been the cheapness of *copper sulphate*. The price of this article has been below the minimum of the previous year during the major portion of 1897. Starting at £17. 15s. in January, it rose to £18. 15s. in March, but slipped away to £16. 15s. by June, even touching a bare £16. in July. September saw a rise of 10s., but the year closed at £16. 5s., a fall of 35s. compared with December, 1896.

Oil, Paint, Colour and Varnish Manufacturers

have, generally speaking, done as well as was to be expected.

In *paints*, things were not too promising in the earlier months of the year, but there was some improvement as the seasons waned, thus making the closing months perhaps a little better than is often the case at such times of the year. No doubt the open weather has had something to do with this, as the building trade has been active. As matters were left with the departure of December, there was no cause for undue despondency. *Seed crushers* have not had a very rosy time. Many mills have been closed over considerable periods, and prices have ruled rather low on the whole. The three closing months of the year, however, showed an improvement, so that with last month it was possible to report more favourably.

As regards the doings in North Britain our special report (see page 6) chronicles much that was to be expected. The position in several details, however, is more promising than at the close of 1896, and in these days of fierce competition and cutting prices even small mercies are worthy of being gratefully accepted. *Oils* have not been encouraging. The prices of linseed and cottonseed weakened rather than improved, and both of them—cottonseed in particular—fell upon evil days towards the close of the year. Castor oil has kept fairly steady. *Rosin* has perhaps been the firmest of all products in this category. Prices have been high during several periods, and have never suffered from a serious collapse. At the same time there has been enough business doing to keep things going. In *Spirits of Turpentine* anything like an advance has generally proved a stumbling block to business. White lead, and white lead substitutes, played a prominent part in the Law Courts, and we shall have something to contribute on this subject in our Special Issue which will appear in a week or so.

Glass, Brick and Tile Manufacturers.

The *glass* trade has been rather better as a whole. Salt cake did not rise very seriously, although it has not been as cheap as heretofore. In the Tyne and Wear districts bottle makers have been fully occupied, and in Yorkshire activity has been more prevalent. In the Stourbridge district the labour disturbances of 1896 do not seem to have been fully overcome, and this centre of the glass trade has been more or less under a cloud all the year, though the last two months have hinted at there being a silver lining after all. At St. Helens trade has been moderate, and that is about all that can be said, the year closing with dulness.

The *brick and pottery* trades were not marked by anything of special moment during the early part of the year. Of course the Dangerous Occupations Committee have been busy amongst potters, and not without some cause. At the same time it would be much more satisfactory if there was more prospect of the employees taking some interest in their own welfare, by showing greater readiness in executing the precautionary measures suggested for their benefit. In these and a good many other trades the majority seem to have posed as martyrs so long that they are loth to abandon the *rolé*. In the autumn encaustic tile makers became busy, but with the further exception of sanitary pressers things kept pretty much on the dead level of mediocrity, with short time the general rule. By December, however, there was a slight improvement discernible in most departments, so that it is easier to face the New Year with courage. It would hardly be fitting to leave this subject without a passing reference to the death of Sir H. Doulton, who has been a second Wedgewood nearly among potters, and a pioneer in many branches of the brick, pipe and chemical-pottery trades. We have yet to deal with

Our Readers in General.

Our summary of the alkali trade would seem to indicate that bleachers and paper-makers should at last have had an easy time as far as their raw materials were concerned. There has been considerable discussion about the prospects of calico printers, and it is to be feared that the ventilation of several of their grievances has not evoked much sympathy. Technical education of the serviceable order is making itself felt, however, in this industry, with promising results. Soap and candles have chiefly been characterised by increased competition and, with certain exceptions, decreased profits. The process of reducing manufacturing methods to a scientific and strictly-economical working basis, however, has progressed apace, and as long as this is the case there is hope for the future. In our *Special Issue*, which will appear on the 22nd inst., we shall make an effort to assist the smaller makers in following the lead of the largest makers, and commend to their notice the suggestions for harnessing science to the chariots of this industry.

During the past year we have given special attention to the industrial application of electricity, and hope that by having taken fearless criticism as a rudder we have been of service to a comparatively new but increasing class of readers—the capitalists who choose electro-chemical undertakings

as a field for investment. We have reason to believe that the hope expressed is not illusory, and would remind those who have benefited, that our only reward can be their kindly introduction or recommendation to those who have yet need of an Achates in this almost virgin field of industrial enterprise and investment.

In conclusion, we at least have the pleasure of softening the jarring memories of '97, and brightening the hopes for the future, by extending to all our readers, whether at home or abroad, all the goodwill and good wishes for 1898, conveyed by the time-honoured greeting of

"A HAPPY AND PROSPEROUS NEW YEAR."

DEATH FROM ANTHRAX.

LAST week Mr. T. H. Stanley (coroner) held an inquest, at the New Inn, Walsall, on the body of Alfred Griffin (27), 18, Margaret-street, bridle-cutter. Mr. J. Jackson, Her Majesty's Inspector of Factories, was in attendance, and Mr. H. Bromwich was present in the interest of deceased's employer (Mr. George Sheldon).—The Coroner said this was alleged to be a death from anthrax—a kind of blood-poisoning—contracted by the deceased at his place of work. In the event of death having arisen from the cause named, the medical officer might require the place to be disinfected.—The deceased's widow identified the body, and said that she did not consider that her husband was a strong man.—Henry Bromwich, Vicarage-street, foreman at Mr. Sheldon's, said the deceased had worked there for fourteen years, and used to prepare the work with raddle and glue-water for the girls. The samples produced were of good leather, and suitable for the purpose. He had never seen the deceased put the leather in his mouth. There was a leather known as Persian in use in the shop, but the deceased did not touch it.—Dr. Lynch deposed that he had attended the deceased at different times for several years. The last time began on the 4th or 6th inst., when he called at witness's surgery and complained of a little sore on his lip. Witness cauterised it with carbolic acid. The next day he was summoned to the deceased's residence, and he then found that erysipelatous inflammation had set in around the sore, and was extending up the cheek. The next day glandular enlargement had set in, and there were angry looking pustules around the place which was first treated with carbolic acid. From that day the disease gradually ran its course, the glands and one side of the face became enlarged and hard, and the flesh of a dusky colour. The heart, lungs, spleen, and liver became involved He advised a consultation with a specialist, and Professor Kauffmann, of the Queen's Hospital, Birmingham, saw the case, and expressed an opinion that it was not one of anthrax. The professor abstracted some blood from the patient for microscopical examination, and on Wednesday he telegraphed that he still adhered to his original opinion. Afterwards the professor wrote that the blood had been accidentally destroyed. All the symptoms pointed to the man having died of anthrax—a disease which was taken from some product of an animal which had had the disease. The spores might be inhaled into the system in the shape of dust, and in this way it was more rapidly fatal than if taken by inoculation through the skin. Glue would be a splendid medium for spreading the disease. The deceased told him that he did not remember to have put any of the leather he worked upon in his mouth recently. In answer to the inspector, the witness said he did not form a definite opinion that it was a case of anthrax until after his consultation with Professor Kauffmann, but he had suspicions before.—Mr. Jackson deposed that he had examined the workshop, which did not differ, either in the work or the materials used, from the other manufactories in the town. Mr. Sheldon told him that the leather the deceased last used was coloured with aniline dye. It had been in store twelve months, and had been kept in a bin next to one of Scotch lambskins. The Persians were the only foreign skins in the place. The jury found that death resulted from anthrax, but where contracted there was no evidence to show.

SOCIETY OF CHEMICAL INDUSTRY: *London Section.*—The next meeting will be held at the Chemical Society's Rooms, Burlington House, on Monday, January 3rd, 1898, at 8 p m., when the following papers will be read: (1) "Standard Methods of Tanning Analysis as adopted by the International Association of Leather Trades Chemists, with remarks thereon," by Professor H. R. Procter and Dr. J. G. Parker. (2) "Extraction of Tanning Materials at various temperatures," by Dr. J. G. Parker. (3) "Neatsfoot Oil," by Messrs. J. H. Coste, F.I.C., and E. J. Parry, F.I.C.

Reports of Companies.

CAPE COPPER COMPANY.

THE tenth ordinary general meeting of the Cape Copper Company, Limited, was held recently, at Cannon-street Hotel, E.C., under the presidency of Mr. Edmund A. Pontifex (the chairman of the company).

The Chairman said: The old adage that "good wine needs no bush," is, I think, not entirely inapplicable to the condition of things which is set forth in the reports and accounts which are now in your hands. Every department of our work has done so well that there are no faults to extenuate and no failures to explain. I think I may say that, without exception, every branch of our business has done better this year than it did in the previous one. (Applause). To come to details, and first with reference to the mining work, I am glad to be able to point out that even at the Ookiep mine there has been a slight increase of 163 tons in the returns of the present year over those of the past one. Notwithstanding that we extracted the large quantity of 26,660 tons of ore, the reserves have only been diminished by 2,700 tons, from which it follows that 23,960 tons of ore have been discovered during the year which were not known to exist when previous estimates were made of the amount of reserves in sight. (Applause). It is true that the assay of the ore has slightly fallen off, viz, from 19·29 per cent. to 18·93 per cent. of copper contents, but this is considerably more than counterbalanced by the reduction in the mining costs which at this mine were £55,830. in 1895-6, as against £52,152 in 1896-7. We have, therefore, on the balance done better to the extent of £2,940. in the work at Ookiep. There has also been a slight increase in the output at Spectakel, which produced 1,536 tons in 1896-7, assaying 28·12 per cent., as compared with 1,469 tons, assaying 28·75 per cent in 1895-6. Work in the trial mines has likewise proceeded satisfactorily, and much more vigorously that heretofore. You will notice we have opened up several new centres, some of which appear to promise well for the future. Our chief success, however, during the year has been in the development work that has been accomplished at Nababeep. Our acting chief mine agent estimates that quite 175,000 tons of ore are already in sight there. (Applause). This ore, though of comparatively low grade, is well adapted, without admixture, for smelting purposes, and it will leave a very good profit even at the present comparatively low price of copper. Moreover, a very encouraging feature in this mine is that latterly we have come upon some ore of a richer description than any we have previously had there. This leads us to hope that with increased depth the richness of the ore may improve generally and possibly may eventually become equal to that which is now being raised at Ookiep. Our smelting in the colony has also proceeded very satisfactorily, and a considerably larger profit has been made this year than last, but it is difficult to dissociate, with any exactness, the colonial smelting profit from that of the mining work. Our railway profit is considerably in excess of that earned in the previous year, mainly by reason of reduced costs, and the greater quantity of up traffic and of goods carried for the public. As stated in our report, the smelting at Briton Ferry has met with marked success. During the past year we have made a profit of some £11,000. in excess of that which we made in the previous one. (Applause). Our freight and charges have also been reduced to the extent of £4,654., and the increased price of copper which we have obtained is accountable for £22,140. We have likewise obtained £1,562. additional profit from the Chemical company—we have saved £1,428. in interest, and here I should like to point out that, whereas in the present year we have an item for interest, &c., on the credit side of the account of £3,778., ten years ago we had one of £8,328. to our debit, the two together showing an improvement under this head of no less than £12,106. In addition to this saving, there is the interest derived on the capital expended on the Tilt Cove establishment, amounting to £5,173. with which we have debited that company in account. We have likewise to our credit the sum of £23,262. being profit made by the Tilt Cove establishment in addition to this amount of interest.

PERSONAL.—It is now settled beyond doubt that it was Piper Findlater, and not Piper Milne, of the Gordon Highlanders, who played "Cock of the North" after he was shot through both legs, so it will be of interest to our readers to know that the brave piper is a brother of Mr. James Findlater, the superintendent of the millwright department, and Mr. John Findlater, the leading fitter at the New Conveyor Co.'s Works, Smethwick. Her Majesty has conferred the Victoria Cross on Piper Findlater. Several thousands of pounds have already been subscribed in Scotland as a national recognition of Findlater's great act of heroism; and it is not unlikely the famous piper may "blaw a bit blast" of "Cock of the North," during an expected visit to his two brothers in Smethwick.

The Patent List.

This list is compiled from Official sources in the Manchester Technica Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Producing Magnesium Hydrate. T. Jennings. 29,529. December 14.
Storage Batteries. J. W. Davies and D. Loch. 29,542. December 14.
Preventing Boiler Incrustation. J. Kippax. 29,671. December 15.
Extracting Metals from Metallic Solutions. J. C. Montgomerie. 29,721. December 15.
Nitric Acid from Low Grade Nitro-oxygen Compounds. P. Jensen. 29,746. December 15.
Roasting and Drying Ores. G. F. Redfern. 29,751. December 15.
Acid Proofing Fabrics, etc. J. Y. Esop. 29,766. December 16.
Chemical Earthenware. A. and W. Matthews. 29,837. December 16.
Drying White Lead, Clay, etc. R. A. Young and A. Tracy. 29,867. December 17.
Improvements in Oil, Paints, and Varnish. E. Springborn. 29,868. December 17.
Gas Reversing Valves for Furnaces. D. Henderson. 29,990. December 18.
Pulverising Non-metallic Bodies. O. Elstner. 30,025. December 18.
Mask for Use in Noxious Fumes. Fred and Franz Wanz. 30,032. December 18.
Improved Fumigating Antiseptic and Fumigator. A. Guapco. 30,036. December 18.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Means of Manufacturing Carbides. J. W. Kenevel, 198, Madison-street, Brooklyn, N.Y., C. A. Spofford, 18c, West 59th-street, N.Y., and J. H. Mead, 366A, Grand Avenue, Brooklyn, N.Y. Eng. Pat. 19,512. August 24, 1897.

This patent is essentially a mechanical one. The raw materials are fed into a furnace, on to a pair of revolving horizontal electrodes in the form of rollers. Petroleum is occasionally supplied to the electrodes to prevent the carbide adhering to them as it is formed. As it leaves the electrodes it falls on to a baffle wall and thence to the bottom of the furnace, whence it can be removed as required. The electrodes are composed of alternate discs of carbon and mica or other non-conductor. For the details of construction it is preferable to consult the specification and the eight figures that accompany it.

Improvements in or Relating to the Production of a Mixture of Air and Water Vapour, especially Applicable for Gas Producers. L. Mond, Winnington Hall, Northwich. Eng. Pat. 28,588. December 14, 1896.

In the manufacture of ammonia from coal or other nitrogenous fuel, considerable quantities of air, heated to about 90° C and saturated with water vapour, are required. The object of the patent is to produce this hot air charged with vapour economically. The exhaust from a gas engine or other waste flue gases is passed through a surface heater and allowed to escape. Water circulates in the heater and passes to a second heater, in which the hot water heats the air passing through the inner tubes up to about 400° C. The water is kept circulating under some pressure by a rotary pump. The heated air then enters the bottom of a vertical chamber, down which a spray of hot water flows, over baffle shelves. The hot air thus becomes saturated with moisture and passes forward, while the water which collects at the bottom of the chamber is drawn off periodically by the aid of a steam trap. Instead of water as a heat-conveying medium in the heaters, brine, a solution of calcium chloride, etc., may be employed. There is one diagrammatic drawing with the specification.

Improvements in the Treatment of Oleic Acid. J. David, 7, Rue Laffitte, Paris. Eng. Pat. 3,700. February 11, 1897.

Two solid white bodies, melting respectively at 45°C. and 65°C., and giving a stearine, melting at 54°C. are obtained by the following treatment, without the aid of costly or dangerous solvents:—monohydrated sulphuric acid, mixed with 5% of Nordhausen acid is sprayed in, drop by drop into dry oleic acid, which is agitated in a lead-lined vessel, cooled to about zero Centigrade. The weight of acid added is from 40 to 50% of the weight of oleic acid used. During this operation the temperature must never be allowed to exceed 20°C. at the most. After resting 12 hours the mixture is run off into a volume of water weighing three times that of the oleic acid taken. It is well stirred with rakes, still keeping the temperature below 30°C. After standing for 2 hours, two layers form. The lower one is dilute acid, which can be drawn off and used; the upper one is mixed with a quantity of water equal to 1½ times the weight of the acidulated water drawn off. By standing in the cold for 24 hours a crop of crystals is obtained, which is separated by filtering. This product melts at 48°C., and can be made direct into candles, if desired. It represents about 20% of the original amount of oleic acid taken. The mother liquor is boiled for about an hour in an open vessel by means of a perforated steam coil (adding enough water to keep the volume constant) when the liquor separates into two layers. After standing an hour the bottom layer of acidulated water is drawn off and cold water added to the upper layer, until washed free from acid. It is then cold pressed to remove a small amount of a black oily product, leaving white crystals that melt at 65°C., and represent about 35% of the total oleic acid taken to start with. About 55% is thus utilized. Oleine is distilled with superheated steam from the black oil. There is one figure, and several ways of using the products are described.

Improvements in the Manufacture of Pearl Hardening or Satin Spar. W. and W. M. Brothers, both of Higher Clewes Chemical Works, Rawtenstall. Eng. Pat. 1,577. January 20, 1897.

Gypsum, or some waste form of calcium sulphate, is boiled with hydrochloric acid and agitated. The sulphate is added until the mass thickens. Crystalline sulphate results. The whole is filter-pressed, and the liquor run into crystallisers to recover the rest of the sulphate that is in solution. The mother liquor, being mainly hydrochloric acid, is used over again. If more convenient, only enough gypsum, etc., is added to form a clear solution in the boiling acid, and the sulphate crystallised out without filter-pressing.

A Method of Dissolving Iodine in Mineral Oils. H. H. Lake, 45, Southampton Buildings (communicated by F. N. Klever, 6, Bandenberger-strasse, Cologne a/Rhine). Eng. Pat. 5,256. February 26, 1897.

The oil is conjointly heated and stirred with about 3% of caustic alkali and oxygen gas, under pressure. About 6% of iodine can then be dissolved in the product in a permanent fashion, and in a form suitable for medicinal purposes. To prevent the solvent becoming too thick after the alkali and oxygen treatment, about 2% of alcohol is incorporated.

A TUBE FILLING MACHINE.

WE illustrate an ingenious apparatus for filling collapsible tubes, etc., with all kinds of solutions, paints, soaps, volatile varnishes, etc. It is the invention of Mr. B. Abrahams, of 20, Spital Square, Bishopsgate, E.C.

The machine consists of a drum which may be made of any capacity according to the requirement of the manufacturer. The top is made to screw on so that there is no chance for the solvent to evaporate when the drum is filled. On the left hand side is a screw nozzle on which can be fitted any size mandril through which the solution is forced by the action of a lever worked with the right hand. For filling collapsible

tubes the empty tube is placed right on to the mandril and the lever worked, which forces sufficient solution into the tube to fill it; the lever can be adjusted so as to deliver any quantity at one thrust, the return of the plunger withdrawing the surplus solution so that when the collapsible tube is taken off no drippings are left and there is absolutely no waste. The tubes are filled as rapidly as they can be placed on and taken off the mandril, and a young girl can fill 30 to 40 gross a day.

A very injenious provision which prevents any possible waste is the knife-like valve which apportions the exact amount of solution for the charge.

UNITED STATES FOREIGN TRADE.

DEVELOPMENT SCHEME

TELEGRAPHING recently, the New York correspondent of the *Morning Post* says:—The desire which has long been expressed in commercial circles for an improvement in the United States consular system, with a view to the development of foreign trade, is to receive satisfaction. The Administration is about to inaugurate reforms which in their full result will amount to the establishment of a new system. The prominent idea is that which has been advocated by the Chambers of Commerce of the country—namely, the extension and increased facilities for conducting trade in the new and growing countries of the world. Attention will be especially given to the States and colonies of South Africa and South America, while in the Orient this country's trade interests are to be carefully fostered in China and Japan, where important markets for American goods already exist and give promise of rapid growth. It will be one of the first aims of the Government of Washington to procure men thoroughly qualified for consular posts under the new system, and, with the idea of attracting the most efficient, there will be a substantial increase in the salaries now paid. Among other new offices to be established there will be a consulate at Pretoria There is at present but one representative of the United States in the Transvaal, in the person of a consular agent at Johannesburg.

THE SCOTTISH MINERAL OIL INDUSTRY DURING 1897.

[SPECIALLY CONTRIBUTED.]

THE products of this extensive manufacture are burning, lubricating, and gas oils, sulphate of ammonia, solid paraffins, and naphtha, besides a few minor variants. From the solid paraffins come the paraffin candles of commerce, forming an off-shoot from the main manufacture, and participated in by the larger of the mineral oil companies of Scotland, as well as by private candle factories which are altogether confined to the finished candle product, these procuring their raw material from the oil works at home or using the imported American paraffins. Solid paraffins comprise a very important item of the Scotch output, and when prices are good the profits accruing are large. Divided into "scale" (which is the first form of the solid paraffin) and "wax" (which is scale relieved of its impurities and refined), this product, it will be remembered, was at one time upheld in price by agreement between the Scotch makers and the American importers; but the compact became unworkable, and ever since the market has been a feeble and weakening one. At the close of 1896 prices had been run down so that they did not do much more than pay for the cost of manufacture. They ranged from 1 7/16d per lb. to 2⅛d, while the commonest sort of candles could be bought at 2s. 8d. per dozen lbs. Low and unremunerative as these prices were, it was found early in 1897 that it was impossible to stick to them. The Standard Oil Company of America, bent on giving as much trouble as possible, knocked a farthing off their selling prices for scale and wax, and there was nothing for it but a corresponding drop on the part of the Scotch producers. This brought the range to about 1⅜d. to 2d., at which it has nominally continued all the year. The drop meant a heavy annual loss to the industry as a whole, and it is feared only the more resourceful of the Scotch makers have been able to produce without incurring actual loss on the operation. It is certain that at least one or two of the makers have been manufacturing at a positive loss. Meanwhile, the candle-making section of the industry has suffered additionally. It is little affected by foreign competition, but there is now no association of makers at home, and under mutual rivalry prices have been further run down, first to 2s. 6d per dozen lbs., and afterwards, in some instances, to 2s. 4d.—a figure quite inconceivable in the trade a few years ago.

The close of 1896 found burning oil at 6¼d. to 6½d. per gallon, according to grade—subject, however, to the discounts a few months before for the first time instituted. These prices were still kept firmer than they otherwise would have been by the continued action of the Mineral Oil Association of Scotland. When August arrived, however, the annual time for fixing rates over the coming winter, it was found, in the face of so virulent a foreign opposition, impossible to retain the home combination for the keeping up of prices, and accordingly, after several meetings, the effort at arrangement was abandoned, and each maker was left to do as it seemed best to himself. The immediate effect of this decision (or failure to come mutually to a decision) was the further loosening of the market. Burning oil fell at once a halfpenny a gallon, over and above the discounts allowed, and there is no means of knowing how much a further lowering has taken place at odd times now and again, when needful makers had by hook or by crook to get money in. Burning oil being an enormous output, this drop of a halfpenny a gallon signified the loss of many thousands on the year's production to the industry at large.

Lubricating oils began the year on a range of from £5. to £7. for gravities 865° to 895°. This range is a tolerably satisfactory one for makers, and indeed of late the article has been the only one of large bulk which has been returning a substantial profit with any degree of steadiness. At the close of the year lubricating oils are still in fairly good keeping, but prices have hardly been able to hold fully at the above mark. This arises not from any inherent defect, but rather probably from the lessened consumption of lubricants throughout the country owing to quarrels between employers and employed, and particularly because of the disastrous engineering stoppages. As the year closes, the range may be stated as from £4. 10s. to £6. 15s. for the gravities above named. However, with the better ordered times hoped for, by the early spring some little advance may be looked for. Paraffin spirit (naphtha) has kept very steady all the year over, at a good average of value; but it is only a very small output, and therefore does not affect the general result more that infinitesimally.

Sulphate of ammonia, a most important product in this industry, began the year at very little over £7. per ton f.o.b. Leith, but in January it mended a little, and on to March averaged about £8 Thereafter it weakened slowly down to £7. 10s. (June and July), afterwards rising rather briskly, till in November it got just over £9. Falling away slightly again, it rallied by the middle of December, and it closes at about £9. 2s. 6d per ton. f.o.b. Leith. This records an improvement on the whole, but the price is still very low as compared with the £14. and £15. of a few years ago.

During the year a proposal has been under the consideration of all the producers of sulphate of ammonia throughout the country (gasworks largely, and also the Scottish mineral oilworks) for the elaboration of some scheme whereby the merits of the home-made chemical might be more strikingly brought before the attention of the agriculturists, who are the main consumers. No definite step to this end has yet been taken, but the subject is not being forgotten. Since our last annual report on this industry there have been amongst those interested in the Scottish oil manufacture somewhat livelier hopes with regard to the ultimate results of the petroleum flash-point agitation and official inquiry going on, but any possible benefit in this connection must be at the nearest a distance of two or three years away, and in the meantime there is the constant struggle to keep bare life in with cheaper and cheaper rival products ever coming in on the market from abroad.

Under market circumstances, such as are above detailed, there can be no great expectation of anything like generous results coming in the way of the poor shareholder. In point of fact as the period of the Spring balancing matured, the shareholders of the various concerns prepared themselves for the worst. At the squaring of 1896 three of the companies had returned moderate dividends, but the market had gone sorely against most of the chief products since, and it was not well seen how anything could be forthcoming, except perhaps in the case of Young's Paraffin and Mineral Oil Company, which had held over a large amount (upwards of £20,000., from the making up of accounts in 1896—see the *Journal* of Jan. 2, 1897) and might now possibly have something to divide, even after coming through a worse year. The first to declare results was the Broxburn Oil Company, and its repetition of the previous year's dividend (7½ per cent.) was an agreeable surprise all round, causing shareholders of the other works to pluck up a little hope. But this newly-born anticipation came to nothing. The Oakbank Company managed to make ends meet with a little to carry forward, as likewise did the Pumpherstone Company. Both had been payers the year before, but there was nothing to divide now. The Linlithgow Company found its balance on the wrong side, and the Holmes Company was in a very bad way, having, although only a very small works, dropped £2,374. over the operations of the year. When it came to Young's Paraffin Light and Mineral Oil Company, with the large carry forward from the year before, the directors had to announce that bad markets had reduced their gross drawings by no less than £30,000. for the one year, and that nearly all that we had in hand, and that they had additionally made, was required to meet interest, plant renewal, and other like undeniable outlays. Discharge of these left rather over £5,000., but that had to be held in hand. The comparative success of the Broxburn Company, as it turned out, had been achieved by lowered costs in production, particularly in an improved retort, which had effected great savings. The other companies are also moving in the same direction of improved retorts, so that in the direction of lowered on costs some beneficial effect will, no doubt, be felt at the accounting of 1898. No assured prosperity, however, can be reckoned on if the product markets do not take some decided turn for the better. One of the smaller companies, electing to adopt the prudent course in good time, closed its works entirely, a few years ago because unable to produce, except at a loss, and these works have remained shut ever since. This is a solvent concern still, but doubtless it would by this time have been wiped off the slate in liquidation if it had persisted in production, for market conditions have gone worse since, rather than otherwise. As the year closes, the directors of this proprietary, intimate that they will continue closed in the meantime, the market offering them no prospect whatever of working at a profit.

Official Memoranda.

From the Board of Trade Journal.

THE RUBBER INDUSTRY IN BRAZIL.

A FURTHER despatch has been received from Mr. Churchill, H.M. Consul at Para, on the question of the rubber forests of Brazil. Mr Churchill transmits copies of letters addressed by him to Messrs. S. D. Williams respecting the rubber industry, in which he states that, having consulted the late Acting Consul at Para, and the manager of a firm which has been established there for over thirty years, as to the possibility of buying rubber forests and working them successfully, he gathered that it is possible to buy them and probably whole islands producing the best rubber, but it is believed that excessive prices would have to be paid as the rubber industry is the chief industry at Para, and yields comparatively large profits to the greater part of the population.

It is believed it would be quite impossible to compete successfully with Brazilian and Portuguese forest owners. The entire collection of rubber is in the hands of a large number of landowners of the nationalities named, who exploit their estates in the most economical manner.

They are able to stand the climate fairly well, whereas mortality is very great among Northern Europeans, and their energy is sapped by the damp heat. The employment of Brazilian and Portuguese managers would be necessary.

Mr. Churchill states that before coming to Para, he was under the impression that the cultivation of rubber trees on a large scale near that port or near the Amazon would be profitable, but he has now reason to believe that this would not be practical; because one would have to wait at least twenty-five years before the trees would be sufficiently strong to bear tapping, also because labour is expensive and scarce, and because the climate is fatal to Europeans.

Rubber trees are distributed over an immense area. The exact limits have not yet been determined nor have they been reached. As the industry increases and newcomers arrive, new forests are discovered and exploited. During the last twelve months over 20,000 tons of rubber have been exported from the ports of Para and Manaos.

In a further despatch H.M. Consul at Para transmits an extract from a letter received from the British Vice-Consul at Manaos relating to the purchase of rubber forests, as follows :—

"I believe it would be a difficult matter to purchase any good rubber lands at the present moment, owing to the fact of this season's rubber crop having just commenced, and the probability of its turning out a profitable one.

"It must be remembered that the 'aviadores,' or traders with the interior, have advanced large amounts in goods to the rubber gatherers, and they are not likely to allow their debtors to dispose of their property until their debts have been paid off, and it is even then questionable whether the owners of the land would be willing to sell. There are, of course, large tracts of forest land which I understand can be purchased from the State Government at a low price, but there would be a considerable cost for demarcation, and property could only be obtained at a great distance from Manaos."

Mr. Churchill (Para) further states that the aviadores are rubber traders, who establish themselves at various points on the Amazon, and advance food and other requirements to the collectors of rubber, and in exchange they receive all the rubber collected, which they send down the river for sale at Manaos or Para. The aviadores obtain their goods on credit from wholesale merchants in the towns named.

These merchants should receive rubber in exchange for goods supplied to the aviadores, but this does not always happen. The up-river aviadores are sometimes treated in a similar manner, but being always on the spot they are more able to enforce the execution of agreements.

Through the credit system, the aviadore makes the collectors of rubber permanently in his debt. He is enabled to accomplish this all the more as the rubber districts do not produce any foodstuffs, and all payments for rubber are made in kind.

The purchaser of a rubber forest will find much difficulty in preventing his rubber from being handed over to the aviadores. It is said that it is not customary to buy forests, as they are worthless to the owner unless he can get the produce, and he certainly does not get it unless he lives on the spot and acts in the same way as the aviador. This would appear simple, but, so far as Europeans are concerned, it appears to be rendered impossible by the climate. There is no doubt that the climate most suitable for rubber is the least suitable for human beings, especially white ones.

It is said that, of all those who have practised the aviador trade, Brazilians are the only ones who can stand the climate fairly well, and even many of them suffer severely. They live without comforts and their food is of the poorest quality, meat being almost unknown. Now, given reasonable comforts, and proper food, which it is possible to have on the banks of the Amazon, a Britisher, with proper organisation, might perhaps stand the much-dreaded climate.

The best means of working a large rubber business would probably be to employ a large number of aviadores, and to make their centre at Manaos. Steamers from England go there regularly, and therefore merchandise may be imported and rubber exported direct.

So far as can be gathered, one need not be afraid of the climate of Para, Manaos, and the main stream of the Amazon, as well as that of the lower part of the principal tributaries. Malarial fever exists generally in the upper waters of the tributaries and in low-lying, swampy land, where rubber trees abound. The climate is probably exaggerated in order to prevent competition.

Steamers go to Para regularly from Liverpool, and proceed to Manaos.

By sending an agent to Para a firm would be able to receive within three months all the information required, and be in a position to decide if it were worth their while to take a share in the rubber business of Brazil.

THE CINCHONA PLANTATIONS OF MADRAS.

According to the report on the Government cinchona plantations of Madras for 1896-97, issued by the India Office, the season during that year was, on the whole, decidedly favourable to the growth and condition of the cinchonas. The report states that on the Dodabetta Estate the trees, as a whole, are looking exceedingly healthy and vigorous This satisfactory condition is largely due to the fact that the estate has never been very heavily cropped, and that, unlike the plantations of Nedivattam and Hooker, only a small proportion of its total area is growing a second crop of cinchona. The results of the coppicing in recent years have been fairly satisfactory, but in many instances the growth of shoots from the stools is extremely slow. With the aid of manure and high cultivation it is hoped that the regeneration by coppice will prove a success. Stools which entirely fail to make growth will be dug out, and their places supplied by healthy young plants grown in baskets. During the year 17 75 acres were coppiced, the yield of dry bark being 65,066 lbs. The number of plants put out during the year was 15,801, but these cannot be considered as additions to the estate, as they served only to supply vacancies in the plantings of previous years.

The Nedivattam estate which presents a very uneven appearance as compared with Dodabetta, (owing to the want of uniformity in the species grown, and to the fact that a considerable proportion of the total area has been replanted after the uprootal of the original trees), has certainly improved in condition during the year. This improvement, though due in some measure to the favourable season, may also be attributed to more liberal cultivation. The area under original planting, which at the beginning of the year was only 137·21 acres, was still further reduced during the year by the uprootal of 20 acres, leaving 117·21 acres of the original planting standing at the end of the year. Of the remaining area of this estate 165·01 acres carry a second crop of trees ranging from 9 months to 16 years of age, and 69·88 acres are lying fallow. It has been found advisable, as a general rule, to allow land which has grown cinchona for 30 years and upwards, a period of at least six years fallow, and as there is no doubt that the natural recuperative power of soils can be increased by judicious treatment while under fallow, it is proposed to work the soil deeply after a plot has been uprooted and grow crops of leguminous plants which will be worked into the soil annually until the plot is again planted with cinchona.

This treatment, supplemented by a dressing of lime and cattle manure before a plot is replanted, should prove effectual in restoring the elements of fertility to soils which have grown cinchona for a considerable number of years

Of the total area of the Hooker estate, *i.e.*, 196·48 acres, there are only 10 59 acres under original planting, while 185·89 acres are growing a second crop of cinchona. In exposed situations and where the soil is poor the growth of the trees is not satisfactory, but where the conditions are more favourable, the cinchonas are looking very well. It is intended to plant up the most exposed ridges and fields on this estate with eucalyptus, as it has been found that such land will grow a second crop of cinchona successfully.

During the year under review 10,400 crown bark plants were put out to supply vacancies in the plantings of previous years.

Particular attention has been paid to the nurseries during the year in view of the fact that the successful re-planting of land from which cinchonas have been uprooted is a matter of considerable difficulty. At Dodabetta 38,000 and at Nedivattam 53,940 plants were transplanted into plant baskets filled with a mixture of manure and rich soil. It is anticipated that by the use of these plant baskets the percentage of failures in next season's planting will be considerably reduced.

The total quantity of bark harvested during the year was 186,867 lbs.

The actual quantity of bark remaining in store at the close of last year was 300,030 lbs. During the year under review 186,867 lbs. were harvested, making a total of 486,897 lbs. Of this total, 240,145 lbs. were disposed of during the year as shown below :—

	lbs.
Used for manufacture of quinine and febrifuge	238,100
Sold	2,046
Total	240,146

and there remained in store at the end of the year 246,751 lbs., of which 104,776 lbs. belonged to the 1896-97 crop, and 141,975 lbs. to the crops of previous years

Owing to the late arrival of the fusel-oil which was indented for in November, 1895, but which did not arrive until May, 1896, work in the factory was not commenced until the 27th May. From that date, with the exception of an interval during the Christmas holidays, the manufacture of quinine and febrifuge was carried on continuously to the close of the year. The total quantity of bark worked up during the year was 238,100 lbs., consisting of 237,000 lbs. crown, hybrid, and magnifolia barks, and 1,100 lbs. of red bark. From this amount of raw material were extracted 7,891 lbs. quinine and 3,350 lbs. febrifuge, or a total of 11,241 lbs. alkaloids.

At the close of last year the stock of quinine was 2,880 lbs, and during the year under review 7,891 lbs, were manufactured, giving a total of 10,771 lbs The issues during the year amounted to 5,908½ lbs., leaving a balance in hand of 4,862½ lbs.

The quantity of febrifuge manufactured during the year was 3,350 lbs., and this added to the stock in hand at the close of last year gives a total of 4,935¾ lbs.

THE WOOD-PULP AND CELLULOSE INDUSTRY OF NORWAY.

In a report to the Foreign Office by Mr. Dundas, H.M. Consul-General at Christiania, it is stated that wood-pulp and cellulose is one of the most important export industries of Norway, and though of comparatively recent development it has advanced with marvellous rapidity. For Norwegian wood-grinding factories, 1896 was about an average year, and for cellulose the demand all through the year was in excess of the supply. The total exportation of this article in 1896 was 314,280 tons—of which 34,803 tons were Swedish production—of the estimated value of £854,560., against £276,047 tons (of which 29,822 tons were of Swedish production) and £748,222., in 1895.

The bulk of the production of this article goes to Great Britain, the next most important customers being France, Belgium, Denmark, and Spain.

Some idea of the share taken by Great Britain in this trade may be formed when it is mentioned that during 1896 she imported pulp to the value of £616,210. out of the total estimated value given above. The following ports were the chief centres for the export of wood-pulp and cellulose in 1896 :—

Port.	Quantity. Tons.
Christiania	64,614
Skien	31,662
Fredrikshald	12,107
Drammen	130,543
Arendal	2,773
Larvik	5,142

PETROLEUM IN THE DUTCH EAST INDIES.

The French Consul at Batavia reports that the production of petroleum in the Dutch East Indies increased from 3,770,200 litres in 1890 to 17,680,400 litres in 1894, to 39,604,600 in 1895, and to 64,104,300 in 1896.

Thus it is seen the production in 1896 is eighteen times as large as in 1890, and since 1894 it may be said that it has almost doubled each year.

Not content with disputing the interior progress of foreign petroleum, and with causing Russian and American importations to withdraw in a large measure, the owners of the deposits in the Malay Archipelago, and especially those of Sumatra, have commenced to export to the neighbouring territory. The following figures show the progressive march of this line of exports : –

Year.	litres (1 76 pint).
1890	56,366
1891	46,492
1892	3,912,555
1893	11,037,132
1894	26,587,884
1895	36,330,411

Never before the year 1892 did the foreign sales reach the importance which they attained in that year, with a figure of almost four million litres, and in a period of four years it had increased in a proportion of nine to one. This remarkable progress is a fact justly calculated to disturb Americans, and further information, which the newspapers of Batavia give, is to the effect that new pools, richer still than those of Sumatra, have recently been discovered in Balangan, in the district of Amoentai, on the Island of Borneo.

Correspondence.

**** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

GLUE DRYING.

(To the Editor of the Chemical Trade Journal.)

SIR,—Can any of your kind readers give me some information as to the best and most economical method of drying glues? A friend of mine tells me that the Germans have a system of drying it in vacuum boxes, but I am unable to get any particulars.—Yours, etc.,

FOREMAN.

INCOME TAX GRIEVANCES.

(To the Editor of the Chemical Trade Journal.)

SIR,—The year now drawing to a close has been remarkable for the great increase in the agitation throughout the United Kingdom against the methods adopted by those whose business it is to administer the Income-tax Acts. While there is no doubt ground for complaint in many districts, we are bound to say that, with very few exceptions we have at no time had any cause of complaint against the Inland Revenue officials. The reason why so many fail to obtain relief is that they either will not take the trouble to prepare proper accounts or else they have neglected to keep any accounts of their business transactions. If proper accounts be kept, or even if a proper cash account be presented (which is a very simple thing by using the "Taxpayers' Cash Book") there is but little difficulty in establishing a claim.

Apart altogether from the Income-tax question it is most necessary that all persons engaged in business should keep a proper record of the business done. Many persons have drifted into bankruptcy through ignorance of their financial condition, who would have been able to have retrieved their position had they been aware of it in time.

As most of your readers who are engaged in business are now ascertaining the amount of their profits for the past year, will you allow us to remind them that, if such profits show a diminution they may be entitled to the repayment of a considerable portion of the Income-tax paid in respect of the same, and to point out the importance of making the claim forthwith. Thousands of people pay tax for which they are not liable, more particularly those whose incomes are derived from property and investments where tax is deducted before being paid to the recipients, even when dividends are paid "free of Income-tax."

Claims can in many cases now be made for four years, and the sum repayable might in the case of private incomes alone exceed £42. up to the end of the current financial year, to say nothing of tax allowed in respect of Life Insurance premiums even when the income exceeds £500 We shall be glad to advise any of your readers gratuitously whether they can make a claim if they send us full particulars of their incomes and a stamped addressed envelope —Yours, etc,

THE INCOME-TAX ADJUSTMENT AGENCY.

12 and 13, Poultry, E.C, December 28th, 1897.

POLLUTION OF THE THAMES.

THE Rivers Committee of the London County Council report that a serious case of pollution in the river Wye (a tributary of the Thames) has taken place from a poisonous liquid, described as "cyanide," from the Wycombe Gasworks being pumped into the Wycombe sewers, and rapidly passing over the waterlogged sewage farm into the Wye, with the result that every fish from Wycombe to the Thames has been killed. The Thames conservancy inspector had reported that even the earth worms had been destroyed. Specimens of the dead fish (trout of 4lb. each) were produced before the Thames Conservancy Board, and the Board had directed proceedings to be taken. The committee had instructed the Council's chemist and medical officer to attend the proceedings and report as to the result. The Rivers Committee also present a statement of the estimate of receipts and expenditure of the Conservancy Board for 1898 upon the upper navigation. The total receipts are estimated at £31,545., of which £24,215. is to be the contribution of the London water companies. The committee state that when the Act of 1894 was before Parliament it was contended that the revenue of the upper navigation was wholly insufficient to enable the conservators adequately to perform their duties, and an additional payment by the water companies of £7,450. a year was imposed. The receipts from the companies would next year amount to no less than £24,215. and there would be a balance of income over expenditure on the upper navigation fund for year ending December 31st, 1897, of £13,500. which it was proposed to transfer to a reserve income account. The report concludes:—"It appears by these accounts that in connection with the performance of the purification duties in the upper river and Thames valley there is for

the river purification a direct expenditure of £3,300. and for inspection of the river (which relates to inspection for all purposes including navigation as well as sanitation) £1,050. making £4,350. direct payment beyond such portion of establishment, law expenses, allowance to conservators and others properly attributable to expenditure connected with the extra duties cast upon the conservancy with reference to the purification and which do not amount to any very considerable proportion. There is no other outlay in respect of river purification duties. From this state of the account it appears that either the duties cast upon the conservators by the Act of 1894 are far less costly than the sums indirectly charged upon the water consumers by way of annual contribution from the water companies, in which case the amounts ought to be reduced, or that, having a large balance of funds so provided for the duties relating to pollution, which includes the costs involved in enforcing orders, the administration is not as complete and adequate as it might be, having regard to the income of the fund."

Trade Notes.

A DISAPPEARING INDUSTRY.—The large sugar refinery at Plymouth, which Sir Edward Bates purchased and kept going twelve years ago, when he foresaw the disaster which the sugar bounties were likely to bring to the English trade, has been purchased by a firm of jam manufacturers, who have taken possession of the premises in the state in which they were deserted ten years ago. Twelve months before the shutting up of the works, Sir Edward Bates spent £12,000. in new machinery of the most approved kind.

PETROLEUM FATALITY.—At Plymouth early on Tuesday morning, a mason named Eddy, on returning to his rooms found the bedroom on fire and his wife lying dead on the floor, her dress being burnt and her face greatly charred and disfigured. Near her lay the fragments of a lamp that had exploded. The fire was quickly subdued. This is the second woman burnt to death at Plymouth in less than a week.

MESSRS. G. T. WEBER AND CO.—We learn that Mr. G. T. Weber, formerly trading as Messrs. Lemm and Weber, has established a house for purchase and sale of chemicals, oils and greases for industrial purposes both for export and import, at 6, Aremberg-street, Antwerp, under the style of G. Theo. Weber and Co.

SUBSIDENCES AT NORTHWICH.—On Monday night another subsidence occurred in Mr. P. Taylor's builder's yard adjoining London-road, Northwich. The depression which is about 15 yards in circumference is not very deep, but a further sinkage may occur at any moment. A small portion of footpath also subsided, but was immediately filled in. Owing to sinkage the road is laid on timber decking. A movement has been noticeable for some time past, and last week a large water main was broken.

Obituary.—We regret to announce the death, in his 71st year, of Mr. Edward Thomas Pease, J.P., which took place at his home at Darlington on Monday. He was born on February 4, 1827, and was the eldest member of the Pease family, being senior to Sir J. W. Pease, Bart., M.P., and Arthur Pease, M.P., by some few years. He was the son of Thomas Pease, of Darlington, cousin of Edward Pease, the father of British railway enterprise, and the founder of the first passenger railway in England—the Stockton and Darlington. Mr. E. T. Pease married in 1853 Mary Ann, the eldest daughter of Hugh Watson Friend, and by whom two sons and two daughters survive him, the eldest being Mr. A. J. Pease, of Old Trafford. Mr. E. T. Pease was chairman of the Darlington Marine Insurance Company for a great number of years, having succeeded his father in that capacity. He was the senior partner in the firm of Thomas Pease, Son, and Co., of Darlington, which was founded by his father nearly a hundred years ago.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are quiet at 1s. 6d. for 90's and 1s. 8d. for 50/90's. With the exception of a rather firmer tendency in crystal carbolic there are no changes to record, prices remaining unaltered. Anthracene is reported to have been sold more freely. Pitch is dull to a degree that is bewildering. Creosote is firm, but buyers are slow to follow the advance.

Sulphate of ammonia is a strong market. Considering the holidays the demand has been well maintained. Makers are firm, and buyers seem to realise that the price asked must be paid if sulphate is to be obtained. Closing prompt values are:—London outside makes, £9.; Liverpool, £9. to £9. 2s. 6d.; Hull £9, and Leith £9. 1s. 3d. to £9. 2s. 6d. For forward Beckton, quotation is £9. 2s. 6d. to £9. 5s. Nitrate of soda is quoted 7s. 6d. for ordinary and 7s. 9d. for fine.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade a fair amount of business is being done; but in he leading products prices are more variable. The competition in sales of bleaching powder is still active. For contracts over 1898 in the Home trade, price is still £5. to £5. 2. 6d. f.o.r. makers works, f.o.b Liverpool £5. 15s. to £6. 5s. according to market. Ammonia alkali 58% has been advanced 5s. per ton for 1898 delivery, price now being £4. 2s. 6d. bags, f.o.r. makers' works. Soda crystals and bicarbonates are unchanged. In caustic soda prices are irregular for forward delivery, but the spot quotations f.o.b. Liverpool are nominally unchanged as follows:—77% £8. 5s.; 74% £8.; 70% £7. 5s.; 60% £6. 5s. nett; 10 ton lots. Sulphur firm at £4. 12s. 6d. f.o.r. Saltcake quoted at 18s. to 19s. f.o.r. in bulk. Chlorate of soda and potash are lower. Potash caustic and carbonate are steady, but without any prospect of improvement in prices; yellow prussiate of potash firmer at 6¾d. per lb; cyanide 1s. 2d. to 1s. 3d. per lb. for prompt, with lower quotations forward. White powdered arsenic rather quiet at £21. 5s. to £21. 10s. for best brands f.o.r. Sulphate of copper £15. 15s to £16. f.o.b. Aniline oil and salts are lower for forward delivery. Carbolic crystals scarce and firm in price. Ammonia salts steady. Acetate of lime, brown, firmer at £5. 15s. to £6., ex U.K. ports; grey, £7. 10s. per ton. Acetic acids unchanged; also other acetates. Lead and zinc salts are firm. In the home trade manufacturing districts business is quiet, as usual, at this time of the year.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 45s. 4d.; Middlesbro', 40s. 3d. cash; and hematite, 48s. 3½d. Copper quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £48. 3s. 9d. to £48. 8s. 9d. cash, and £48. 12s. 6d to £48. 17s. 6d. three months. Tin easier: Straits closed at £62. 7s. 6d. to £62. 17s. 6d. cash, and £63. 1s. 3d. to £63. 11s. 3d. three months; Australian, £63.; English ingots, £65. 10s. to £66. Lead dull: Spanish, £12. 10s.; English, £12. 13s. 9d.; Silesian spelter, ordinary, £18. 2s 6d. Nickel, 1s. 2½d. Antimony, £30 10s. to £31. Quicksilver: First hands, £6. 17s. 6d.; second hands, £6. 17s. *Copper shares* quiet: Cape, 3 15/16 to 4 1/16; Copiapo, 1⅞ to 2⅛; Libiola, 2⅛ to 2⅜; Mason and Barry, 2⅞ to 3⅛; Rio Tinto, 24 11/16 to 24 15/16; Tharsis, 6½ to 6¾.

GLASGOW, TUESDAY.—Market steady and a small business. Scotch done at 45s. 4½d. cash, and 45s. 7½d. to 45s. 7d. one month; buyers, 45s. 4d. cash; sellers, ½d. more. Cleveland done at 40s. 4d. cash, and 40s. 6½d. one month; buyers, 40s. 3½d. cash; sellers, 40s. 4d. Cumberland hematite done at 48s. 7d. one month; buyers, 48s. 4d. cash; sellers ½d. more. Middlesbrough hematite, buyers, 49s. 3d. cash; sellers, 49s. 6d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil keeps steady, but the holidays are still hindering anything like serious business. Olive keeps firm, with a small consumptive demand. Linseed is steady, Liverpool makes in export casks being quoted 16s. to 16s. 6d. cwt. Cottonseed quiet, and rather slow of sale at 14s. 6d. to 15s. 3d. for Liverpool refined. Castor oil is steady with more demand for spot parcels. For good seconds Calcutta and first pressure French sellers ask 3 15/16d. to 3⅜d. per lb. Tallow is scarce and firm accordingly. Resin is moving very slowly at 4s. 3d. for common, and other grades in proportion to last quotations. Spirits of turpentine are quiet but steady at 24s. 3d. to 24s 6d. cwt. on spot. Petroleum quiet; American 5¾d. to 7d., and Russian refined 4¾d. to 5d. per gallon.

CAKES.—Supplies of American Western linseed being limited the quotation has advanced 2s 6d., but only a small business was concluded at £7. 2s. 6d. to £7. 5s., whilst Liverpool makes have been in fair consumptive request at £8 to £8. 10s. per ton, according to brand. American decorticated cottonseed (good to choice brands) are still given at £5. 7s. 6d. to £5. 17s. 6d., as in quality, with moderate sales reported in Liverpool makes at £6. 5s. to £6. 15s per ton. A consumptive inquiry is experienced for Liverpool undecorticated makes at £4. 1s. 3d. to £4. 10s., according to brand, but Egyptians quiet, at a slight decline, £4. per ton being about value of spot parcels.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12., best £15.; Derbyshire—common 40s., medium 50s, best 60s.; Welsh—best 90s., seconds 50s., and common 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Business here is only nominal owing to holidays and no doubt will so continue to the year-end with little doing other than the completion of contracts. The imports to date as against the same time a year ago, have been:—Linseed, 738,100 qrs., against 982,979 qrs.; rapeseed, 102,746 qrs. against 106,964 qrs.; cottonseed, 203,557 tons against 172,453 tons; oilcake, 12,359 tons against 12,977 tons; olive oil, 4,380 tuns against 5,760 tuns; tar, 15,037 barrels against 18,192 barrels. Linseed oil is steady, being quoted spot, 14s. naked; January-April 14s. 6d.; May-Aug. 14s. 10½d. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton oil is weak with sellers at 12s 3d. spot naked,; January-April 12s. 7½d.; filtered refined is about £1 per ton extra; crude oil is quoted with buyers at 11s. spot; January-April 11s. 6d.; casks £1. and ordinary barrels £1. 10s. per ton extra. Turpentine is unchanged. Castor oil from 3½d. per lb. Cod oils, £15. 10s. to £18. per ton. Olive oil quiet and unchanged. Olive oil soap, from £16. per ton. Oleines from £16. 10s. to £18. per ton. Danish butter 114s. to 116s. per cwt.; Swedish 110s. to 114s; Dutch, 102s. to 108s.; Colonial 98s. to 106s.

CAKES.—In quick demand and little new business passing with prices practically unaltered. Linseed cakes quiet, 95% pure, £7. 15s. to £7. 17s. 6d. Oilcakes (linseed), £6. 15s. to £6. 17s. 6d; Russians, £7. 7s. 6d. to £7. 12s. 6d.; Americans, £7. to £7. 5s. Cotton cakes, new orders scarce; best makes, £4. to £4. 1s. 3d.; seconds, £3. 17s. 6d. to £3. 18s 9d. Rape cakes, Black Sea, £4 per ton.

PAINTS.—There are prospects of firms in this trade recommencing work full time again when the year is turned. White and red leads continue firm and unchanged. Mineral colours dry, from £3. 10s. to £8.; patent dryers, 12s. per cwt., up. Ready mixed paints in lever tins, from £22. 10s. per ton. Ultramarine from 3d. per lb. Lime blue 12s. Black varnish £5. 10s. per ton, in barrels. Paint remover 25s. per cwt.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The works of this quarter are now hastening on to closure for the New Year holidays, which will endure variously from three days to a fortnight, the interval being employed to a large extent for repairs to plant, and for general cleaning. The market is quite out of regular order for the time, but general tendencies are well recognisable. Sulphate of ammonia is very stiff at £9. 2s. 6d. prompt Leith, or even the next fraction higher; while some makers' are asking £9. 5s. Chlorates are on report as rather inclined to buyers favour for next year's business. Sulphate of copper is perhaps a trifle easier. The calico printers and the cotton dyers regard the year now closing as a very bad one for them, and the outlook on to the new year is not very enlivening. Mineral oils and solid paraffins are in large deliveries. Prices are badly tried with the foreign quotations, but they retain the old figures, nominally at least.

Chief prices current are:--Soda crystals, £2. 10s. to £2. 17s. 6d. nett, Tyne, soda ash, 48/52°, £4. 5s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 17s. 6d. to £5. 7s. 6d. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 5s. od., 60/62° £6. 5s. od., cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. nett, Tyne; saltcake, 19s.; borax, English, refined, £14, and boracic acid, £25. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4d. nett, for Scotch and English deliveries (for export, 3¾d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3d. nett, f.o.b Glasgow); chlorate of potash, 3⅝d. less 5%, any port: nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 2s. 6d., prompt, f.o.b. Leith; salammoniac, first and second white, £33 and £31. nett any port; sulphate of copper, £16., less 5% Liverpool; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 17,950 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are quiet and business slow. Prospects for next year are not by any means encouraging. Soda crystals are maintained at £2. 12s. 6d. per ton, gross weight, locally. Sulphur, still scarce at £4. 15s. and £5. per ton. Other articles unchanged.

Bleaching powder, softs, £6. 5s. per ton, nett; hards, £6. 10s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s., per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw. £3. 7s. 6d. per ton, nett; soda crystals, casks, £2 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3 per ton. nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do., 90/95% crude calcined, £6. per ton nett; sulphide of barium, crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt continues steady at 9s. per ton, f.o b. Tees.

COALS.—Trade is very good for this time of the year, and collieries are kept fully employed. Coke continues steady and the consumption still seems to be on the increase. Prices as follows:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d., per ton; small steam, 3s. 3d. to 3s. 6d. per ton; bunker coals, 7s. 6d. to 8s. per ton; gas coals, 8s. to 8s. 6d. per ton; coke, 17s. to 20s. per ton.

New Companies.

Carbon (new) Syndicate, Ltd.—CAPITAL £30,000., in £1. shares. This company has been formed to adopt an agreement with the Carbon Syndicate, Ltd., and its liquidator, and to carry on the business of carbon manufacturers, electricians, suppliers of electricity, engineers and electrical apparatus manufacturers. The subscribers to the memorandum of association are:—E. A. Green, 61, Southwark Bridge-road, S.E., clerk; T. E. Greenwood, Grasmere, Allfarthing Lane, Wandsworth, electrician; H. P. Holdaway, 38, Vassall-road, N. Brixton, accountant; H. Dobbin, 4, Balmuir Terrace, Putney, gentleman; E. L. Jackson, The Hollies, W. Norwood, clerk; E. W. White, The Olives, Kingshall-road, Beckenham, clerk; W. Andrew, 38, Hornsey Park, Hornsey, N., bookkeeper. Registered office, 39, Victoria-street, S.W

London Malt Sugar Works, Ltd.—CAPITAL £1,000., in £1. shares. This company has been formed to acquire, own, and work certain patents relative to the manufacture of brewing sugar and other ingredients for brewing purposes. The number of directors is not to be less than 2 nor more than 10; the first are W. McCowan, L. I. N. Norman, and S. Lucas.

New Trinidad Lake Asphalt Co., Ltd.—CAPITAL £500,000., in £10. shares. This company has been formed to adopt an agreement with A. L. Barber, and to acquire, own, and work certain rights relative to the working of asphalt in Trinidad or elsewhere. The subscribers to the memorandum of association are:—E. T. Church, 41, Copleston-road, Denmark Park, S E., clerk; A. Jones, 166, Maygrove-road, W. Hampstead, gentleman; F. W. Cowham, 59, Dynevor-road, Stoke Newington, clerk; A. W. Lawson, 338, Romford-road, Forest Gate, E, accountant; H. W. Brown, 79, High-street, Beckenham, journalist; A. Eldridge, 17, Stanley Road, Ball's Pond-road, N., gentleman; W. Farrier, 16, High-street, Homerton, clerk.

Palatinate China and Fire Clay Estates, Ltd.—CAPITAL, £60,000., in £5 shares. This company has been formed to acquire and carry on the business of china and fire clay merchants, cement, brick, and tile manufacturer and merchant, coal, coke, and mineral merchants, and mine owners carried on by J. Klein, at Loutersheim and Ebertsheim, in the Palatinate, Germany, and to adopt a certain agreement. The subscribers to the memorandum of association are:—E. Earnshaw, 24, Mark-lane, E C., chartered accountant; W. J. Hermges, 5, Fell-street, E.C., merchant; W. Johnson, 5, Vernon Place, Bloomsbury Square, W.C, agent; W. Imray, 285, Upton Lane, Forest Gate, E., secretary; J. Klein, 13, Mexfield-road, E. Putney, manager; J. A. Fuller, Chelmsford, merchant; P. Gibbon, 14, Endwell-road, Brockley, S E., writer. Registered office, 18, Eldon-street, Finsbury, E C.

Patent Gas Enrichment Syndicate, Ltd.—CAPITAL, £20,000. in £10. shares. This company has been formed to acquire, own, and work certain undescribed patents relating to the enrichment of gas. The subscribers to the memorandum of association are:—T. Fenwick, 63, New Broad-street, E.C., engineer; J. Batcheler, 29, Minories, E.C., oil merchant; A. H. Pugh, Ommaney-road, New Cross, S.E., traveller; L Curtis, 63, New Broad-street, E.C., secretary; M. Hume, 104, Rossendale-road, West Dulwich, clerk; M. Dough, 34, Killieser Avenue, Streatham Hill, S.W., clerk; M. Leigh, 37, Hayter-road, Brixton Hill, S.W., clerk. Registered office, 63 and 64, New Broad-street, E.C.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 18th.

Acetic Acid –
Holland, 70 pks. F. J. Putz & Co.
" 30 H. Lorenz
" 175 A. & M. Zimmermann
" 130 cks. 50 crbys R. W. Greeff & Co.

Acetone—
Germany, £25 Matthews & Luff
Holland, 60 M. Benscher

Acids—
Holland, 55 pks. Little & Johnston

Alum —
Germany, 10 cks. T. H. Lee
Holland, 151 456 pks. Ohlenschlager Brs.
Germany, 13 "

Antimony Ore—
Japan, 22 t. Hunt & Kerr

Arachide Oil—
Holland, 20 cks. Phillipps & Graves

Asbestos—
Canada, £360 Furness, Withy & Co.
Italy, 10 Davis & Soper
U. States, 32 W. Byford
Holland, 15 W. H. Carey & Sons
France, 8 Mery & Co.

Barium Chloride—
Germany, 32 cks. Petri Brs.

Barytes—
Germany, 26 cks. H. Lambert
Holland, 95 J. L. Lyon & Co
" 54 W. Harrison & Co.
Germany, 11 G. S. N. Co.
" 57 W. Harrison & Co.
Belgium, 133 205 bgs. J. L. Lyon & Co.
Germany, 39 Wilkinson, Heywood & Co.
Belgium, 73 W. Harrison & Co.
" 85 O'Hara & Hoar

Bone Meal—
E. Indies, 690 t. A. Hunter & Co
Belgium, 193 t. Anglo-Contnl. Guano Wks.

Borate of Lime—
Germany, 711 bgs. J. Greig

Camphor—
Germany, 4 pks. L. & I. D. Jt Co.
" 2 cks. Fuerst Brs.

Caoutchouc —
France, 53 c. H. Johnson & Sons
Aden, 31 L. & I. D. Jt. Co.
Sydney, 45 McIlwraith & Co.
Singapore, 39 L. & I. D. Jt Co.
Germany, 9 F. Huth & Co.
Natal, 19 L. & I. D. Jt. Co.
Madagascar, 5 S. Figgis & Co.
Singapore, 114 E. Boustead & Co.
" 387 Huttenbach & Co.

Carbolic Acid—
Germany, 65 pks. J. G. Back
Holland, 100 Blagden, Waugh & Co.

Castor Oil —
France, 10 cks. F. Boehm
" 13 Anderson, Weber & Smith
Austria, 10 cs. M. D. Co.

Chemicals (*otherwise undescribed*)
Belgium, £40 John Cockerill Line
Germany, 100 L. & I. D. Jt. Co.
" 762 A. & M. Zimmermann
" 500 T. H. Lee
" 160 Craven & Co
Holland, 60 A. & M. Zimmermann
" 31 T. H. Lee
Germany, 130 R. Ulrich
Belgium, 135 T. Palmer
Germany, 15 F. Boehm
" 12 H. Lambert
" 475 Phillipps & Graves
France, 200 B. & F. Wf. Co.

Citrate of Lime –
Italy, 22 cks. Thames S. T. & L. Co., Ld.

Cream of Tartar—
Holland, 10 kgs. Kirkpatrick & Co.
France, 15 cks. W. C. Bacon & Co.
" 15 F. C. Devon & Co.

Cresoline —
U. States, £250 Lunham & Moore

Dyestuffs—
Aniline
Belgium, 24 pks. W. Gerson & Co
Holland, 3 L. C. & D Rly Co.
Argols
Italy, 372 bgs. B. Jacob & Sons
" 500 Thames S. T. & L. Co., Ld
Cochineal
Canaries, 13 bgs. Hendrey & Martin
" 45 Kuhner, Henderson & Co.
" 26 Sperling & Williams
Cutch
U. States, 200 bxs. Ralli Brs.
Rangoon, 500 T. Ronaldson & Co.
" 650 A. B. Curtis & Co.
" 300 H. H. Litchfield & Co.
Extracts
Austria, 33 cks. Hoare, Wilson & Co.
Denmark, 30 M. D. Co.
N. Russia, 6 Bailey & Leetham, Ld.
Canada, 80 Furness, Withy & Co.
" 120 Boutcher, Mortimore & Co.
France, 25 B. & F. Wf. Co.
" 105 pks Bennett S. S. Co.
France, 20 cs Bailey & Leetham, Ld.
Germany, 4 cks. M. D. Co.
Austria, 100 Boutcher, Mortimore & Co
Gambier
Singapore, 869 pks. G. R. Haller
" 336 bgs. R. & J. Henderson
" 256 bls. Union Ltge. Co.
Indigo
U. States, 4 serons. Cotesworth & Powell
Myrabolams
E. Indies, 800 pks. Montgomerie & Co.
Saffron
Spain, 1 cs. C. S. Lovell
" 2 Richardson, Spence & Co.
Shumac
Italy, 400 bgs. Bevington & Sons
" 200 J. E. Scott
" 200 T. S. Harris & Co.
" 500 J. Kitchin
" 100 H. Johnson & Sons
" 80 T. Barter & Co.
Singapore, 13 brls. Union Ltge Co.
Tanners' Bark
Natal, 57 t. Boutcher, Mortimore & Co.
Singapore, 2 Union Ltge. Co.
Belgium, 312 Lon. & Til. L. Co

Farina—
Holland, 250 bgs. J. Barber & Co
" 50 Dunlop Brs. & Co.
" 350 R. Bennett & Co.
Germany, 138 Seaward Brs., Ld.
" 50 J. Barber & Co.
Holland, 100 J. Knill & Co

Glucose—
U. States, 250 pks. 250 c. Williams, Torrey, & Co.
" 50 307 L. & T. L. C. & M. Co.
" 200 200 Hett & Field
Germany, 200 200 Trier, Meyer & Co.
" 40 500 Bennett S. S. Co.
" 35 287 Deering & Robottom
" 14 120 J. Knill & Co
" 50 163 M. D. Co.
U. States, 250 250 G. Clark & Son
" 250 230 C. S. Lovell
" 3,805 8,417 R. G. Hall
" 50 291 J. Keiller & Son
France, 900 900 W. E. Cole
" 200 200 H. Smith & Co
" 100 100 J. Barber & Co.
U. States, 275 1,512 Ohlenschlager Brs.
" 100 600 W. Grose & Co
" 50 150 C Southwell & Co.

Glue—
France, £76 Hernu. Peron & Co.
Holland, 95 M. Benscher
" 23 W. H. Carey & Sons
Germany, 335 L. & I. D. Jt. Co.
France, 314 Burnett Brs. & Co.
" 60 T. M. Duche & Sons
Canada, 67 L. & I. D. Jt. Co.
Holland, 86 G. Rahn & Co
Belgium, 120 J. Barber & Co.
Holland, 21 H. Johnson & Sons
U. States, 33 Armour & Co.
Norway, 450 Hicks, Nash & Co.
Austria, 160 J. Greig
" 100 Steinhoff, Sons & Co.
France, 100 J. Harrison
" 160 H. J. Davis & Sons
Italy, 150 Ohlenschlager Brs.
Belgium, 20 T. H. Lee
Germany, 27 Phillipps & Graves

Guano—
Cape Cross, 610 t. A. Hunter & Co.

Lead Acetate—
Holland, £80 Beresford & Co.

Litharge—
Holland, 12 cks. J. Barber & Co.
" 29 Spies Brs. & Co.
" 12 cs. J. Owen
Germany, 18 P. Jantzen

Manganese Ore—
Germany, 1 t. H. Honychurch & Co.

Manure—
Germany, 20 t F. W. Berk & Co, Ltd.

Methyl Alcohol—
Germany, 10 dms. Lister & Biggs
Belgium, 9 "
Germany, 2 Tingle, Jacobs, & Co
" 7 T. Jones & Co.
" 24 cks. H. Lambert

Mica—
Adelaide, £100 Major & Field

Molasses—
W. Indies, 136 bgs. Paines & Reid
" 463 C. M. & C. Woodhouse
U. States, qty. Falkenberg & Hesse

Nickel Salts—
Germany, £36 Petri Brs.

Ochre—
Holland, 28 pks. Phillipps & Graves
U. States, 23 cks. Taylor Brs.
France, 76 W. Harrison & Co
Ceylon, 50 Union L. Co., Ltd.

Phosphate Rock—
France, 75 t. West & Penrose

Pitch—
Germany, 78 brls. Berlandine Brs. & Co.
France, 30 Poth, Hille, & Co.

Plumbago—
Ceylon, 126 cks. W. Bridge & Son
" 156 Orient Co.
" 100 J. Thredder, Son, & Co.
" 142 Doulton & Co.
" 55 Union L. Co.

Potash—
Germany, 10 c. J. Barber & Co.
" 500 Spies Brs. & Co.
Canada, 28 Charles & Fox

Potassium Carbonate—
France, 130 c. J. Barber & Co.
Germany, 30 Petri Brs.
" 200 Howards & Son
" 100 A. & M Zimmermann
" 949 Gas Light & Coke Co.

Potassium Cyanide—
Belgium, £123 J. Harrison
Germany, 40 cs. F C. Devon & Co.

Pumice Stone—
Italy, 15 t. Beck & Pollitzer

Pyrites—
Spain, 1,300 t. Naylor, Benzon, & Co.

Rosin —
Spain, 33 brls. Phillipps & Graves

Rosin Oil—
Germany, 20 brls. Berlandina Brs. & Co.

Soda—
Belgium, 68 c. Sawer, Sons, & Co.
" 800 C. Lamb & Co
" 600 Domeier & Co.
Holland, 140 Greeff & Co.

Sodium Acetate—
Holland, 13 cks. H. Lorenz
France, 50 H. Wallace & Co.
" 265 pks. J. Harrison

Sodium Bichromate —
Germany, 95 cks. C. Tennant, Sons, & Co.

Sodium Hyposulphite—
Germany, 26 cks. Petri Brs.

Sodium Sulphate—
Germany, £27 Deering & Robottom

Starch—
Holland, 1,200 cs. Vokins & Co.
Belgium, 20 T. H. Lee
U. States, 8,700 bgs Union L. Co.
Germany, 120 cs. Phillipps & Graves
U. States, 100 bgs. E. & T. Pink
" 100 R. G. Hall & Co.
Holland, 82 cs. Phillipps & Graves
Belgium, 957 F. Claydon & Co.
" 100 Sawer, Sons, & Co.
" 200 Becker & Wagner
France, 281 Prprs. Dowgate Dk.
Germany, 1,060 Horne & Co.
" 150 Seaward Brs.
U. States, 250 bgs. Ohlenschlager Brs.
Belgium, 118 cs. Leach & Co.
Holland, 1,371 Little & Johnston
U. States, 30 cks. Beck & Pollitzer

Stearine—
Germany, 63 bgs. H. Hill & Sons
Belgium, 155 H. Hehl
" 25 pks. John Cockerill Line
Holland, 114 H. Hill & Sons

Sulphur—
Italy, 6 t J. Moreton & Co.
" 16 J. Kitchin, Ltd.
" 500 Fuerst Brs.
" 5 J. Taylor
" 75 B. Jacob & Sons
" 21 J. Greig
" 50 G. Boor & Co.

Sulphuric Acid—
Germany, 38 drs. H. Lambert

Talc—
Adelaide, £296 Major & Field
France, 40 Blackwell & Co.

Tar—
Russia, 15 cks. Linck Moeller, & Co.

Tartar—
Holland, 20 kgs. Kirkpatrick & Co.
Italy, 24 cks. B. Jacob & Sons
" 16 Howard & Son

Tartaric Acid—
Holland, 8 cks. Kirkpatrick & Co

Ultramarine—
Holland, 8 cks. J. Barber & Co.
" 20 Thames S. T. & L. Co.
" 1 cs. G. Rahn & Co.
" 5 Phillipps & Graves

Varnish—
U. States, 16 pks. Lon. & Til. L. Co.
" 2 Lunham & Moore
Germany, 21 T. H. Lee
Belgium, 4 "

Vermilion—
Austria, 3 cks. O'Hara & Hoar

White Lead—
Germany, 10 cks. H. Lambert
" 23 F. G. Clifford
" 26 H. B. Alder & Co.
Holland, 30 M. Ashby, Ltd.
Belgium, 66 T. & W. Farmiloe, Ltd.
Holland, 38 J. R. Francis & Co.
" 25 H. B. Alder & Co.

Wood Pulp—
Holland, 50 pks. W. G. Taylor & Co.
" 50 Christophersen, Andrews, & Co.
Sweden, 272 C. S. Lovell
" 25 W. D. Cork
" 300 Tough & Henderson
Germany, 4 cks. T. H. Lee
Norway, 80 pks. Hummel & Co.
Germany, 1,000 Tough & Henderson
Canada, 3,900 W. D. Cork
Norway, 681 Johnsen & Jorgensen
" 681 Christophersen, Andrews, & Co.
U. States, 270 W. D. Cork
" 680 Henderson, Craig, & Co.
Norway, 300 W. E. Bott & Co.
" 900 W. D. Cork

Zinc Oxide—
Holland, 100 pks. Prprs. Dowgate Dk.
Germany, 40 cks. R. W. Greeff & Co.
Holland, 58 J. Matton
" 5 H. Johnson & Sons
" 125 Spies Brs. & Co.
" 10 Petri Brs.
U. States, 200 M. Ashby, Ltd.
Hong Kong, 32 Union L. Co., Ltd.

LIVERPOOL.

Week ending December 16 h.

Aluminium (Sheets)—
Genoa, 4 cs.

Antimony—
Singapore, 436 slabs

Barytes—
Antwerp, 200 bgs. 68 cks.

Bone Ash—
Zarate, 543 bgs. J. Nelson & Sons, Ld

Boracic Acid—
Leghorn, 5 cks.

Borates—
Galveston, 252 sks.

Borax—
Valparaiso, 1,320 bgs.

Caoutchouc—
Havre, 176 cs. Cunard S. S. Co., Ld.

Carbolic Acid—
Hamburg, 1 cs.

Carbonate of Lime—
Bordeaux, 1 cs.

Castor Oil—
Calcutta, 1,083 cs. Ralli Brs.
" 350
Genoa, 20 Evans, Sons & Co.
Leghorn, 30

Citric Acid—
Messina, 8 cks.

Colours—
Bordeaux, 1 cs.
Havre, 1 Cunard S. S. Co. Ld.
Genoa, 30 bgs.
Hamburg, 14 cs. 28 cks.
Antwerp, 3

Cottonseed Oil—
New York, 250 brls.
N. Orleans, 60

Cream of Tartar—
Barcelona, 5 brls.
Bordeaux, 47 cks.

Dyestuffs—
Annatto
Bordeaux, 8 pks R. J. Francis & Co.
Cochineal
Gd. Canary, 20 bgs.
" 40 Gd Canary Islands Trading Co.
" 20 Kolp Kullmann
Cutch
Singapore, 100 bxs
Fustic
Cartagena, 882 pcs.
Gambier
Singapore, 6,235 bls. 103 bxs 438 bgs.
Orchella
San Francisco, 1,002 bls.
Saffron
Moneofar, 2 cs.
Valencia, 4

Glucose—
New York, 100 brls. T. M. Duche & Son
" 1 1 bx.
Baltimore, 800

Glue—
Antwerp, 2 pks.
Bordeaux, 15 R. J Francis & Co.

Limestone—
Antwerp, 2 crts. J. T. Fletcher & Co.
" 43 cs.

Logwood—
Gd. Saline, 350 t.

Magnesite—
Hamburg, 36 bgs.

Manganese—
Hamburg, 5 cks.

Manganese Ore—
Huelva, 1,430 t. Darwen & Mostyn Iron Co.

Paraffin Scale—
New York, 59 brls. Thompson & Bedford

Phosphates—
Ghent, 5 t. J. T. Fletcher & Co.
" 575

Phosphate Rock—
Brunswick, Ga., 1,477 t.

Potash—
Antwerp, 8 dms.

Pyrites—
Huelva, 7,274 t. Matheson & Co

Rosin—
Savannah, 4,415 brls.

Rosin Oil—
Savannah, 75 bls.

Salt—
Antwerp, 100 bdls.

Saltpetre—
Calcutta, 1,243 bgs. Ralli Brs.

Soap—
N. Orleans, 936 brls.
New York, 2 cs. Colyate & Co.
Boston, 8 W. Feggitt

Soapstone—
Bordeaux, 200 bgs. Geo. G. Blackwell, Son & Co.

Starch—
Antwerp, 430 cs. J. T. Fletcher & Co.
Baltimore, 1,800 bgs.

Stearine—
Antwerp, 32 bgs. J. T Fletcher & Co.
" 51
Boston, 300 tcs. A. Calender

Sulphur—
Catania, 150 t.

Talc—
Bordeaux, 100 bgs.

Tallow—
New York, 150 brls. J. W. Marc & Co.
" 265 tcs. 1,200 hds
San Francisco, 2,549
Campana, 255 cks.
Boston, 126 tcs.
Zarate, 213 pps. J. Nelson & Sons, Ld.
Sydney, 997 cks.
Philadelphia, 350 tcs.

Treacle—
New York, 400 brls.
Philadelphia 775

Varnish—
New York. 13 c

White Lead—
Antwerp, 25 cks. J. T Fletcher & Co.
Ghent, 16 brls. "

Wood Pulp—
Boston, 257 rolls Thin & Sinclair
Fredrikshald, 1,750 bls. H. Tyrer & Co.
Arendal, 2,400 "
Portland. Me., 690 bdls.
Christiania, 5 789 bls. H. Tyrer & Co.

Zinc Oxide—
New York, 100 brls.
Antwerp, 20

Zinc Skimmings—
San Francisco, 498 brls.

MANCHESTER.

Week ending December 18th.

Acetic Acid—
Rotterdam, 9 btls.

Alizarine—
Rotterdam. 32 cks.

Alum Cake—
Rotterdam, 60 cks.

Aniline Oil—
Rotterdam, 6 cks.

Barytes—
Rotterdam, 77 cks.

Colours—
Rouen, 3 cks.
Rotterdam, 95 13 cs. 9 bxs.

Cream of Tartar—
Rotterdam, 12 cks. 20 kgs.

Farina—
Hamburg, 150 bgs.
Rotterdam, 1,000
" 1,000 N. W. Jackson & Co.

Glue—
Rouen, { 5 cks. 38 bls 101 cs.
Hamburg, 70 bgs. 30
Rotterdam, { 60 5 cks. 4

Indigo—
Rotterdam, 11 chts.

Lead Acetate—
Rouen, 17 cs.

Litharge—
Rotterdam, 27 cks.

Lithopone—
Hamburg, 4 cs.

Logwood—
Cape Hayti, 500

Pitch—
Hamburg, 50 cks.

Potash—
Hamburg, 20 cks.
Rotterdam, 30

Pumice Stone—
Rotterdam, 12 cs.

Soda—
Rotterdam, 5 cks.

Sodium Nitrate—
Rotterdam, 23 cks.

Starch—
Hamburg, { 20 bgs. 128 cs.
Rotterdam, 132

Tannic Acid—
Hamburg, 8 cks.

Tar Oil—
Rotterdam, 5 cks.

Tartaric Acid—
Rotterdam, 13 cks.

Ultramarine—
Hamburg, 8 cs.
Rotterdam, 4 cks.

White Lead—
Rotterdam, 2 cks.

Wood Pulp
Kallero, 4,608 bls. W. Gallagher & Son
Gefle, 8,800 Stott, Coker, & Co.
Hamburg, 440
Rotterdam, 53
Sundswall, 12,739 A. Hertheim & Co.

Zinc Oxide—
Hamburg, 5 cks.
Rotterdam, 180 brls.

Zinc White—
Rotterdam, 15 cks.

HULL.

Week ending December 18th.

Acetic Acid—
Rotterdam, 10 blns. W. & C. L. Ringrose

Acids—
Antwerp, 3 brls Wilson, Sons, & Co., Ld.

Alkali—
Rotterdam, 1 ck. Hutchinson & Son

Barytes—
Riga, 15 cks Wilson, Sons, & Co., Ld.
Bremen, { 21 314 pks.
Rotterdam, 150 bgs. Hutchinson
78 cks. & Son
Antwerp, 77 Bailey & Leetham, Ld.
Hamburg, 20 "

Bone Meal—
Kurrachee, 2,000 bgs.
Rotterdam, 1,000 Hutchinson & Son

Chemicals *(otherwise unmescribea)*
Hamburg, 9 pks. Wilson. Sons, & Co., Ld.
Antwerp, { 84 dms. 4 cks. "
Hamburg, 1 cs. Bailey & Leetham, Ld.
Bremen, 16 pks. Veltmann & Co.
Rotterdam, 5 cs. Hutchinson & Son

Cod Oil—
Hamburg, 35 brls. Wilson, Sons, & Co., Ld.

Colours—
Hamburg, 6 cs.
Bremen, 4 cks. Blundell, Spence, & Co.
Rotterdam, 2 brls. Hutchinson & Son
Antwerp, 55 cks. 4 cs. Wilson,
35 pks. Sons, & Co., Ld.
Stettin, 20 cks.
Rotterdam, 6 4 brls. W. & C. L.
71 pks. Ringrose

Cottonseed Oil—
New York, 350 brls. Wilson, Sons. & Co., Ld.

Dyestuffs—
Indigo
Rotterdam, 1 chst. Hutchinson & Son
Amsterdam, 1 cs. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 154 bgs.

Farina—
Harlingen, 100 bgs. W. & C. L. Ringrose
Stettin, 850 Wilson, Sons, & Co., Ld.
Ghent, 10 "
Amsterdam, 250 W. & C. L. Ringrose

Gasoline—
New York, 2 dms. Wilson, Sons, & Co., Ld.

Glucose—
Stettin, 10 cks. Wilson,
200 bgs. Sons, & Co., Ld.

Glue—
Dunkirk, 82 cks. Wilson, Sons, & Co., Ld.

Lead Acetate—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
" 29 Bailey & Leetham, Ld.
Stettin, 20 Wilson, Sons, & Co., Ld.

Manganese—
Odessa, 870 t.

Manganese Ore—
Hamburg, 6 cks.

Nickel Salt—
Rotterdam, 4 cks. Hutchinson & Son

Phosphate—
Antwerp, 35 cks. Wilson, Sons. & Co., Ld.
Ghent, 2,840 bgs.
Dunkirk, 1,500

Phosphate Rock—
Bona, 1,100 t. Hammond, Emes & Co.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.

Potash—
Dunkirk 34 cks. Wilson, Sons, & Co., Ld.
Antwerp, 45 pks. "

Rosin—
Savannah, 4,290 brls.

Saltpetre—
Hamburg, 38 pks. Wilson, Sons, & Co., Ld.
" 1 brl.

Soap—
New York, 432 bxs.
Rotterdam, 50 cs. Wilson, Sons, & Co., Ld

Soda—
Ghent, 250 bgs. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 88 cs. Bailey & Leetham, Ld.
Ghent, 73 Wilson, Sons. & Co., Ld.
Rotterdam, 20 Hutchinson & Son
Amsterdam, 40 W. & C. L. Ringrose
Antwerp, 60 Wilson, Sons, & Co., Ld.

Stearine—
Antwerp, 53 pks. Wilson, Sons, & Co., Ld.

Tallow—
Dunkirk, 94 cks. Wilson, Sons, & Co., Ld.
New York, 150 tcs. "

Tar—
Konigsberg, 80 brls. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 8 cks. Hutchinson & Son

Treacle—
New York, 975 brls. Wilson, Sons, & Co., Ld.
Hamburg, 4 cks. Bailey & Leetham, Ld.

Turpentine—
Savannah, 606 brls.

Ultramarine—
Rotterdam, 2 cks. W. & C. L. Ringrose

Waste Salt—
Hamburg, 500 bgs.
" qty. Bailey & Leetham, Ld.

White Lead—
Dunkirk, 16 cks. Wilson, Sons, & Co., Ld.
Antwerp, 61 Bailey & Leetham, Ld.
Dunkirk 48

Wood Pulp—
Hamburg, 400 pks. Wilson, Sons, & Co., Ld.
,, 120 Bailey & Leetham, Ld.
Hango, 240 bls. J. Good & Sons
Zinc Ashes—
Antwerp, 20 cks. Bailey & Leetham, Ld.

GLASGOW.

Week ending December 23rd.

Acetic Acid—
Rotterdam, 7 cks. J. Rankine & Son
Alumina Sulphate—
Rotterdam, 30 cks. J. Rankine & Son
Ammonium Chloride—
Rotterdam, 30 cks. J. Rankine & Son
Arachide Oil—
Rotterdam, 7 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 155 bgs.
Barytes—
Rotterdam, 193 cks. J. Rankine & Son
Hamburg, 50 bgs.
Chemicals (*otherwise undescribed*)
Hamburg, 51 cks.
Colours—
Rotterdam, 9 cks. J. Rankine & Son
36 pks.
Dyestuffs—
Alizarine
Rotterdam, 11 cks. J. Rankine & Son
40 brls.
Aniline
Rotterdam, 4 cs. J. Rankine & Son
2 cks.
Farina—
Delfszyhl, 1,000 bgs. J. Rankine & Son
Phosphate—
Antwerp, 1,020 bgs.
Potash—
Rotterdam, 36 cks. J. Rankine & Son
Potassium Oxalate—
Rotterdam, 10 cks. J. Rankine & Son

Starch—
Rotterdam, 130 cs. J. Rankine & Son
Antwerp, 78
Stearine—
Amsterdam, 62 bgs.
Tallow—
New York, 100 tcs.
Tartaric Acid—
Rotterdam, 8 cks. J. Rankine & Son
Varnish—
New York, 50 brls. 9 cs.
Antwerp, 3
Waste Salt—
Hamburg, 249 cks.
White Lead—
Rotterdam, 71 cks. J. Rankine & Son
Wood Pulp—
Portland, M., U S A., 1,700 bdls.
Christiansand, 3,030 bls.
Rotterdam, 23 J. Rankine & Son
Christiania, 670
Drammen, 1,324
Zinc White—
Rotterdam, 50 cks. J. Rankine & Son

TYNE.

Week ending December 18th.

Alum Earth—
Hamburg, 29 cks Tyne S. S. Co.
Barytes—
Rotterdam, 154 bgs. Tyne S. S. Co.
Antwerp, 55
Bleaching Powder—
Rotterdam, 1 ck. Tyne S. S. Co
Colours—
Antwerp, 2 cks. Tyne
2 cs. S. S Co
Glue—
Hamburg, 35 bgs. Tyne
1 cs. S. S. Co.
Limestone—
Antwerp, 3 crts. Tyne S. S. Co.
Ochre—
Cartagena, 53 bgs. J. Cameron Swan, & Co
Paint—
Hamburg, 3 tins and qty. Tyne
1 brl S. S. Co.

Potash—
Hamburg, 20 cks. Tyne S. S. Co.
Rosin—
Savannah, 2,475 brls.
Saltpetre—
Hamburg, 37 cks. Tyne S. S. Co.
Soap—
Rotterdam, 1 cs. Tyne S. S. Co.
Soda—
Hamburg, 13 cks. Tyne S. S. Co.
Starch—
Antwerp, 233 cs. Tyne S. S. Co.
Wood Pulp—
Montreal, 489 bls.
Christiania, 80
Rotterdam, 520 Tyne S. S. Co.
Zinc Sulphate—
Gothenburg, 3 bgs.
Zinc White—
Rotterdam, 25 cks. Tyne S. S. Co.

GOOLE.

Week ending December 15th.

Alizarine—
Rotterdam, 73 cks
Ammonium Chlorate—
Hamburg, 1 ck.
Antimony—
Boulogne, 4 cks.
Barytes—
Rotterdam, 12 cks.
Caoutchouc—
Boulogne, 9 cks.
Chemicals (*otherwise undescribed*)
Hamburg, 7 cs.
Colours—
Hamburg, 37 cks. 54 cs.
Dyestuffs (*otherwise undescribed*)
Rotterdam, 354 cks. 92 cs. 1 tin
Amsterdam, 2
Boulogne, 42 33 14 pks.
Farina—
Hamburg, 800 bgs.
Delfszyhl, 1,700
Ochre—
Calais, 17 cks.
Potash—
Calais, 8 dms.
Dunkirk, 1 ck. 20
Hamburg, 31

Pyrites—
Seville, 1,050 t.
Saltpetre—
Hamburg, 9 brls.
Antwerp, 85 bgs.
Rotterdam, 100
Soap—
Rotterdam, 3 cs.
Sodium Silicate—
Rotterdam, 1 ck.
Starch—
Hamburg, 1 brl.
Ghent, 105 bxs.
Stearine—
Antwerp, 7 bgs.
Tartaric Acid—
Rotterdam, 1 ck.
Ultramarine—
Rotterdam, 4 cs.
Varnish—
Boulogne, 10 cks. 1 cs.
Waste Salt—
Hamburg, { 454 cks. 10 bgs.
Wood Pulp—
Rotterdam, 207 bls.
Antwerp, 1,351

GRIMSBY.

Week ending December 18th.

Barytes—
Rotterdam, 80 bgs.
Chemicals (*otherwise undescribed*)
Hamburg, 1 ck.
Colours—
Antwerp, 54 cks. 48 pks.
Hamburg, 28 18 cs. 52
Farina—
Hamburg, 100 bgs
Glue—
Hamburg. 20 bgs.
Lamp Black—
Helsingborg, 118 cks.
Pitch—
Hamburg. 50 cks.
Starch—
Antwerp, 22 cs.
Wood Pulp—
Helsingborg, 150 bls.
Zinc Ashes—
Antwerp, 14 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 22nd

Alkali—
Boston, 3 cks. £21
Dunedin, 2 t. 2 c. 11
Timaru, 18 7
Hamburg, 4 15
Ammonia—
Dusseldorf, 26 dms £270
Cologne, 8 cylds. 60
Ammonium Carbonate
Bordeaux, 15 brls. £40
Dunkirk, 3 t. 10 c. £90
Ammonium Chloride—
Bourgas, 5 t. £145
Trebizonde, 2 62
Ammonium Nitrate—
Halifax, 5 t. £210
Ammonium Sulphate—
Canaria, 29 t. 13 c £537
Bremen, 150 1,275
Bisulphite of Lime—
Fremantle, 1 t. 10 c. £11
Auckland, 3 13
Bombay, 2 2 31
Bone Ash—
Rotterdam, 10 t. £140
Borax—
Townsville, 20 brls. 50 kgs. £96
Hamburg, 2 t. 3 c. 56
Brisbane, 2 10 36
Carbolic Acid—
Melbourne, 40 dms. 1 cs. £23
Amsterdam, 24 cks. 139

Philadelphia, 5 109
Dusseldorf, 1 121
Pt. Elizabeth, 120 43
Sydney, 40 13
Carbonic Acid Gas—
Bordeaux, 10 tubes 30
Caustic Soda—
Brisbane. 21 t. 5 c. £157
Delagoa Bay, 1 14
Pt. Elizabeth, 10 15 221
Chemicals (*otherwise undescribed*)
Bombay, 20 kgs. £45
Townsville, 2 cs. 15
Adelaide, 2 14
Paris, 14 cks. 1 38
E. London, 8 26
Auckland, 3 164 pks. 408
Wellington, 3 30 138
Brisbane, £8 133
Perth, 33 179
Rotterdam, 20 kgs. 123
Antigua, 16 65
Napier, 5 18
Demerara. 125 33
Melbourne, 118 183
Sydney, 7 7 87
Boston, 82 cks. 13 491
St. Helena, 8 21
Hamburg, 26 dms. 95
Calcutta, 1 56
Citric Acid—
Amsterdam, 2 c. £12
Yokohama, 15 85
Bombay, 2 14
Lisbon, 5 cks. 29
Hiogo, 1 t. 11 180
Calcutta, 2 14
Colombo, 1 7

Coal Products—
Alizarine
Lyttelton, 4 cks. £50
Dunedin, 2 29
Boston, 15
Reval, 6 cs. 318
Alizarine Blue
Boston, 10 cks.
Aniline
Brussels, 1 dm. £40
Melbourne, 2 cs. 60
Boulogne 8 pks 3 cks. 71
Rotterdam, 12 410
Aniline Dyes
Auckland, 1 cs. £10
Melbourne, 1 4 cks. 46
Anthracene
Dusseldorf, 4 2 cks. £1,887
Cologne, 106 446
Benzine
Melbourne, 130 dms. £86
Benzol
Boulogne, 7 cks. £242
Hamburg. 24 75
Rotterdam, 137 3 dms. 551
Naphthaline
Cologne, 6 cks. £54
Pitch
Dunkirk, 1,030 t £1 300
Huelva, 1,640 1,640
Singapore 46 cks. 105
Genoa, 1,920
Aviles, 840 840
Naples 1,225 1,800
Tar
Algoa Bay, 900 dms. £51
Brisbane, 50 10
E London, 200 7
Pt. Elizabeth, 720 28

Tar Oil
Boston, 220 cks. £111
Melbourne, 74 brls. 61
Copper Sulphate—
Bordeaux, 55 t. £924
Paris 40 656
Pt. Elizabeth, 9 c. 8
Antwerp. 30 514
Cream of Tartar—
Wellington, 6 c. £23
Disinfectants—
Calcutta, 10 cks. £70
Hamburg, 25 125
Melbourne 12 cs. 31
Pt. Elizabeth, 40 138 pks 66
Guano
Jersey, 70 t. £400
Ghent, 4 4 c. 50
Manure—
St. Michael's, 9 t. £77
Colombo, 2 14
Demerara, 165 1,370
Cherbourg, 1,955 bgs. 700
Jersey, 123 13 c. 501
Ghent, 38 15 22
Guildford, W.A., 20 54
Valencia, 150 1,200
Rouen, 50 445
Canaria, 44 14 144
Cape Town, 865 4 3,339
Muriatic Acid—
Demerara, 30 carboys £12
Phosphoric Acid—
Demerara, 5 t. 5 c. £72
Potash—
Colombo, 2 cs. £12

Potassium Cyanide—

Wellington,	6 t.			£588
Fremantle,	1			95
Kg. Geo. Sound,	2	10 c.		300
Townsville,	32	18		3 000

Potassium Prussiate –

Antwerp,	6 cs.			£76
Philadelphia,	4			63
Genoa,	1			20
Hiogo,		13 c.		36

Saltpetre –

Newport News,	24 t.	7 c.		£439
Oporto,	12	17		239
E. London,		6		6

Salts of Potash—

Auckland,	15 t.	11 c.		£1,320

Sheep Dip –

Brisbane.	100 cs.			£175
Rockhampton,	100			178
Pt. Elizabeth,	500			675
E. London,	150			183
B. Ayres,	4,500	819 dms.		11,250
	27 t.	13 c.		
M. Video,	8	14		195
Antwerp,	1,000 cs.			1,250

Soda –

Gibraltar,	1 t.	12 c.		£5
Pt. Elizabeth,	15	2		58

Soda Ash—

Auckland,	20 t.	4 c.		£92

Soda Crystals—

Wellington,	1 t.	3 c.		£22
Pt. Elizabeth,	4	1		14

Sodium Bicarbonate—

Townsville,	1 t.	4 c.		£8
Pt. Elizabeth,		11		7
E. London,	2	6		18

Sodium Carbonate—

Boston,		2 c.		£6
Pt. Elizabeth,	2 t.	5		18

Sodium Sulphate—

Gothenburg,	270 t.			£439

Sulphuric Acid—

Pt. Elizabeth,	1 t.	1 c.		£9

Tartaric Acid—

Fremantle,		11 c.		£6 4
Townsville,		1		8 7
Hiogo,		15		7

LIVERPOOL.

Period ending December 22nd.

Acetic Acid—

Copenhagen,		7 c.		£7

Alum –

Odessa,	2 t.		1 q.	£9
Singapore,	1	8 c.		9
Piræus,	4	6	1	20
Syra,	2	1	3	10
Patras,	2	19		14
B. Ayres,	25 hf.-tcs.			25
Hamburg,	1 t.		1	5
Tunis,	3	16		18
Sfax,	2	6		10
Beyrout,	3			15
Fiume,	1	8		7
Cartagena, N.G ,		6		5
Natal.		10		3
Madras,	11	9	1	64

Ammonium Carbonate –

Copenhagen,	2 t.	10 c.		£51
Barcelona,	1			23
Marseilles,		10		15
Naples,		4		5
Rotterdam,		10	2 q.	15
Havana,		15		26
Genoa,	2	13		68
Bordeaux,			15 cks.	22
Lisbon,		18		26
Yokohama,	2	5		53

Ammonium Chloride—

S. Jose de Guatemala,	1 t.			£41
Copenhagen,		17 c.		16
B. Ayres,	1			29
Volo,		6		12
Hamburg,		4	1 q.	7
Syra,		3	2	6
Philadelphia,	31	2	2	621
Natal,		5		11
Hiogo,	2	10		46
San Francisco,	1	5		22
Patras,		12		18
Montreal,		17		16
New York,		6		5

Ammonium Sulphate—

Teneriffe,	2 t.			£17
Genoa,	5		3 q.	42
Barcelona,	20			120
New York,	50			450
Boston,	40	10 c.		363
Madeira,	4	17		123
Bordeaux,	5			38
Valencia,	148	6	2	1,280
Gd. Canary,	44	9		416

Antimony—

Alexandria,		1 c.		£2

Bleaching Powder—

Calcutta,	167 cs.			
Halifax,	50			
New York,	182 cks.			
Portland,	42			
Syra,	5			

Boracic Acid—

Portland, M.,		19 c.	2 q.	£27
Melbourne,	3 t.	7		108

Borax—

Tampico,	1 t.	10 c.		£24
Portland,	10	2	1 q.	172
Vera Cruz,		6	3	6
St. John's, N.B.	1		1	17
Portland,	5	6	1	85
Piræus,	1			13
Melbourne,	5	17	40 kgs	181
Rotterdam.	14	12		219

Calcium Chloride—

B. Ayres,	1 t.	9 c.		£4
Brisbane,	5	19		16

Carbolic Acid—

Copenhagen,		19 c.	3 q	£66
Yokobama,	5 t.			318
Hiogo,	2	10		169
New York,	4	11	2	109
Sapeli,		1		4
Brass,			2	2

Carbon Bisulphide—

Bahia,		4 c.		£9

Caustic Potash—

B. Ayres,		8 c.	2 q.	£5
Baltimore,	6 t.	4		169
Cape Town,	1			30
Havre,	1	8		49
Brisbane,		10		13

Caustic Soda—

Alexandria,	126 dms.			
Alicante,	60			
Bombay,	50			
Corfu,	3			
Fiume,	30			
Genoa,	183	5 brls.		
Ghent,	10			
Hamburg,	105			
Hiogo,	328			
Madeira,	5			
Malaga,	60			
Malta	15			
M. Video,	50			
Naples,	49			
New York,	200			
Portland,	50			
St. John's, N B.,	5			
Salonica,	4			
San Francisco,	175			
Santos,	110			
Santander,	50			
Seville,	55	12 cks.		
Singapore,	15			
Trieste,	74			
Victoria, B C.,	25			

Chemicals *(otherwise undescribed)*

Boston,	5 t.	2 c.		£301
Calcutta,	15	8	2 q.	42
Karachi,		15		23
Philadelphia,	26	11		807

China Clay—

Bombay,	70 cks.			
Malaga,	10 t.			

Coal Products—

Aniline Salts				
Genoa,	10 brls.			
Pitch				
Valparaiso,	10 brls.			
Rosalic Acid				
New York,		2 c.		£17
Tar				
Bombay,	2 cs.			
Hamburg,	255 brls.			
Lagos,	28			
Tar Oil				
Copenhagen,	12 cks.			

Copper Sulphate—

Rio de Janeiro,	4 t.	18 c.	1 q.	£81
Antwerp,	5	1	3	84
Amsterdam,	3	1	3	47
Gothenburg,	1			16
Alexandria,		12	2	10
Victoria, B.C.,	2			32
Kurrachee,	1			17
Madras,	1			16
Sydney,	15			234
Calamata,	9	19	2	160
Marseilles,	30	3		499
Lisbon,	25	1	1	395
Patras,	4	18	2	244
Leghorn,	19	18	1	307
Venice,	25		1	371
Genoa,	30	1	2	457
Paris,	16	14	3	265
Rotterdam,	1	18		35
Nantes,	35	1		542
Cette,	693	12	1	10,971
Bombay,	10			160
Ghent.	1	13		26
Bordeaux,	604	17	3	9,916
Salonica,	1	9	1	23
Piræus,	53			670

Copperas –

Alexandria,	25 t.	13 c.		£38
Syra,	3			6
San Sebastian,	13	18		28
Beyrout,	6	17		18
Patras,	3			5

Cyanide—

Genoa,		2 c.		£10

Disinfectants—

San Francisco,	75 dms.			£31
Rio de Janeiro,		15 c.		9
Alexandria,		6		8

Lead Nitrate –

Copenhagen,	1 t.			£21

Lime—

Quitta,	2 t.	5 c.		£6

Magnesia –

Barcelona,	4 cs.			
New York,	10			
St. Nazaire,	40			
Tampico,	2			

Magnesium Chloride—

Manila,	2 t.			£6

Magnesium Sulphate—

Rio de Janeiro, 200 kgs.				

Manganese Borate—

Portland, M.,	1 t.	5 c.		£37

Manure—

Bordeaux,	3 t.	5 c.		£12
Valencia,	26	10	2 q.	145
Malta,	1			6

Paint—

Axim,	12 kgs.			
Beyrout,	35			
Bilbao,			5 cks.	
Colon,	100			
Constantinople,		81 pks.		
Havana,			1	
Ponce,			5	
Pt. Natal,		36		
San Juan,			2	
Sierra Leone,	120			
Talcahuano,			40	

Painters Colours—

Bombay,	5 kgs.			
Dunedin,		5 cs.		
Genoa,		41 pks.		
Leghorn,		30		
Manila	600		6 cks.	
Marseilles,			6	
Melbourne,		6		
New York,	100	1 brl.		
Oporto,	40		40	
Santos,		2 cs.		
Seville.		12 brls.		
Sierra Leone,		23 pks.		
Tampico,		2 brls.		

Paraffin Wax—

Alexandria,		5 cs.		
Brindisi,	10 bgs.			
Leghorn,	50			
Salonica,		10		
Smyrna,	25			

Potassium Bichromate –

Hong Kong,		4 c.		£10
St. John's, N.B.,	4 t.	19		185
Piræus,	2	2		47
Salonica,	4	1		152

Potassium Carbonate—

New York,	17 t.	13 c.		£318
Baltimore,	1	19		42

Potassium Chlorate—

Hiogo,	47 t.	10 c.		£1,534
Gothenburg,	2	10		80
Naples,	1			31
Pasages,	4			129
Portland, Me.,	2			62
New York,	15	10		472
Sydney,	6			187
San Francisco,		15		23
Hamburg,	1			30

Potassium Chloride—

Malta,	2 t.			£9

Potassium Cyanide—

Calcutta,	2 t.	5 c.		£245
New York,	4	10		365

Potassium Prussiate—

B. Ayres,		5 c.	2 q.	£13

Salt—

Amsterdam,	166 t.			
Antwerp,	150			
Baltimore,	630			
Bonthe,	50			
Boston,	100			
Buguma,	50			
Calcutta,	6,244			
C. C. Castle,	62	10 c.		
Cape Palmas,	10			
Conakry,	64			
Degama,	100			
Ghent,	50			
Gibraltar,	1	18		
Hamburg,	100			
Lagos,	20			
N. Orleans,	400			
New York,	91			
Pt. Elizabeth,	17	17		
Rotterdam,	180			
St. John's, N.B.,	100			
Sierra Leone,	53			
Stockholm,	100			
Winnebah,	5			

Salt Cake—

Genoa,	15 t.			£[illegible]

Saltpetre—

Manaos.		9 c.	3 q.	£[illegible]

Sheep Dip—

B. Ayres,	12 t.	16 c.	3 q.	£24
Algoa Bay,	5	14		21
Queenstown,	2	6	3	10
M. Video,	13	7	3	37

Soap—

Alexandria,	20 bxs.			
		21 cs.		
Algoa Bay,	225			
Amsterdam,	1,080			
Arecife,	100			
Axim,	200			
Barbadoes,	220			
Bonny,	75			
B. Ayres,		4		
Callao,		4		
C. C. Castle,	400			
Cape Town,	750	60		
Curacao,	105			
Delagoa Bay,	27			
Drewin,	20			
E. London,	55		793 pks.	
Gd. Bassam,	40			
Gd. Canary,	516			
Hamburg,			500 bdls.	
Havre,	200			
Karachi,			102 pks.	
Lagos,	100			
Lanzarote,		12		
Manaos,	570			
Mauritius,		1		
Mossel Bay,	550			
New York,		24		
Old Calabar,	720			
Opobo,	2,975			
Para.	320			
Piræus,		1		
Pt. Elizabeth,	100			
Porto Alegre,		3		
Rangoon,	95			
St. John's, N'fld.	20			
Salt Pond,	100			
San Fernando,	250			
Singapore,	500		2	
Tabou,	20			
Valparaiso,	13		100	
Winnebah,	100			

Soda Alkali –

Sydney,		17 brls.		

Soda Ash—

Baltimore,	1,600 bgs.			
		33 cs.		
Boston,	656		416 cks	
Ghent,	1,550		35	
Hamburg,		10	ls.	
Karachi			38	
Portland,	30 pks.			
San Francisco,			346	
Sydney,			378	
Venice,	160 bgs.			
Vera Cruz.			5	

Soda Crystals—

Hamburg,		280	rls.	

Soda Oxide—

Trieste,		5 c.		

Sodium Bicarbonate—

Barcelona,	40 kgs.		2 cks.	
Bombay,	375			
Karachi,	1,040			
Piræus,	20			
Pt. Elizabeth,	50			
Porto Alegre,			2	
Rangoon,			5	
Rosario,	50 bgs.		18	
Rotterdam,	15 kgs.			
Vancouver,	100			
Varna,	20			

Sodium Bichromate—
St. John's, 14 cks.
Sodium Sulphate—
St. John's, N.B., 10 cks.
Sulphur—
Antwerp, 10 t. £46
Trinidad, 14 63
Boston, 100 1 c. 425
Superphosphates—
Cape Town, 15 t. £36
Bordeaux, 228 5 c. 2 q. 410
Genoa, 49 5 98
Las Palmas, 20 64
Pasages, 10 20
Valencia, 119 1 3 270
Malta, 4 17
Barcelona, 240 1 600
Tin Crystals—
Portland, Me., 10 c. £21
Varnish—
Hong Kong, 20 dms.
Rio de Janeiro, 2 cs.
Wellington, 20
Verdigris—
Philadelphia, 1 t. 12 c. £125
Zinc Chloride—
Bombay, 16 t. 15 c. £225
Zinc Sulphate—
Portland, Me., 1 t. £5

MANCHESTER.

Period ending December 18th.

Aniline Colours—
Hamburg, 8 cks.
Rotterdam, 6 1 cs. 1 kg.
Aniline Oil—
Antwerp, 13 dms.
Aniline Salts—
Hamburg, 1 pn.
Anthracene—
Rotterdam, 36 cks.
Benzol—
Rotterdam, 1 dm.
Carbolic Acid—
Hamburg, 100 cks.
Farina—
Rotterdam, 40 sks.
Glue—
Treport, 1 ck.
Naphtha—
Treport, 25 cks.
Naphthaline—
Hamburg, 14 cks.
Naphthol Salts—
Rotterdam, 7 cks.
Pyridine—
Rotterdam, 12 cks.
Salt—
Rotterdam, 350 t.
Sodium Arseniate—
Ghent, 1 ck.
Tar—
Treport, 29 cks.
Toluol—
Rotterdam, 20 dms.
Waste Salt—
Ghent, 1 ck.

HULL.

Week ending December 18th.

Alkali—
Amsterdam, 38 dms.
Fiume, 1 ck.
Hamburg, 3
Alum—
Kurrachee, 1,185 brls.
Anthracene—
Amsterdam, 56 cks.
Bleaching Powder—
New York, 98 cks.
Carbolic Acid—
Amsterdam, 25 cks.
Gothenburg, 12 btls.
Caustic Soda—
Abo, 11 cks. 75 dms.
Chemicals (*otherwise undescribed*)
Amsterdam, 1 ck.
Antwerp, 27 cs.
Bordeaux, 10
Bombay, { 504 10 874 brls. 15 pks.
Copenhagen, 2 53
Christiania, { 36 382 slbs. 8 pks.
Gothenburg, 34 9
Hamburg, 1 85
Odessa, 7 3
Rouen, 30
Rotterdam, 5 60 15
Riga, 20
Stettin, 7 8
Stockholm, 2
Trieste, 19
Venice, 100
Cottonseed Oil—
Amsterdam, 1,378 c.
Antwerp, 2,020
Copenhagen, 87
Christiania, 17
Constantinople, 327
Hamburg, 85
Rouen, 1,008
Rotterdam, 515
Stavanger, 20
Stettin, 273
Trieste, 840
Creosote—
Amsterdam, 3 brls.
Glue—
Gothenburg, 25 bgs.
Linseed Oil—
Alexandria, 72 c.
Bombay, 858
Copenhagen, 67
Christiania, 35
Drontheim, 43
Hamburg, 34
Rotterdam, 64
Stettin, 3
Manure—
New York, 669 bgs.
Naphtha—
Amsterdam, 3 brls.
Paint—
Bombay, 570 kgs.
Painters' Colours—
Amsterdam, 11 cks. 2 dms.
Antwerp, 31 7 cs.
Bari, 1 1 kg.
Bombay, 4 201 83
Bremen, 3 16 dms.
Gothenburg, 8 1
Ghent, 4
Hamburg, 81
Harlingen, 1
Kurrachee, 4
New York, 15
Rouen, 1
Rotterdam, 8 2 1
Riga, 23
Stettin, 7
Venice, 15
Pitch—
Antwerp, 466 t.
Kurrachee, 75 cks.
New York, 142
Soap—
Copenhagen, 2 cs.
Palermo, 1
Tallow—
Amsterdam, 28 cks. 1 cs.
Tar—
Antwerp, 6 cks.
Rotterdam, 2
Turpentine—
Alexandria, 50 dms.
Bombay, 15
Varnish—
Antwerp, 3 cs.
Bombay, 90 dms.
Rouen, 1
Gothenburg, 3
Harlingen, 1 ck.

GLASGOW.

Week ending December 23rd.

Ammonia—
Rochefort, 25 t. 1 c.
Ammonium Carbonate—
Stockholm, £10
Ammonium Sulphate—
Rotterdam, 60 t. 11 c.
Baltimore, 310 11
Bleaching Powder—
Melbourne, 9 t. 19½ c.
Boracic Acid—
Bordeaux, £30
Sydney, 60
Castor Oil—
Sydney, £89
Coal Products—
Aniline
Calcutta, £37 10s.
Naphthaline
Baltimore, £87
Pitch
Hamburg, 11 t.
Stockholm, £35
Rochefort, 1,215
Tar
Karachi, £126
Rangoon, 46
Coal Products (*otherwise undes.*)—
Rotterdam, £742
Cod Oil—
Melbourne, £33
Copperas—
Bombay, £56
Extracts—
Christiania, £26
Victoria, 136
Toronto, 111
Madder—
Karachi, £28 15s.
Manure—
Belawan, 200 t.
Paint—
Calcutta, £195
Painters' Colours—
Algoa Bay, qty.
Cape Town, £30 10s.
Melbourne, ,,
Natal, ,,
Sydney, ,,
Paraffin Wax—
Bordeaux, £310
Stockholm, 38
Skien, 38
Potassium Bichromate—
Karachi, £83
U.S.A., 586
Amsterdam, 195
Rosin—
Calcutta, £135
Soap—
Bombay, 2 t. 15¾ c.
Klang, 1 11¾
Sodium Bichromate—
U.S.A., 11 t. ¾ c.
Sulphuric Acid—
Rangoon, £1,766
Treacle—
Algoa Bay, 2 t. 10 c.
Stockholm, 45 ¾
Christiania, 17 9¾
Varnish—
Melbourne, £20
Sydney, 63
White Lead—
Calcutta, £195
Zinc White—
Calcutta, £140

TYNE.

Week ending December 18th.

Alkali—
Amsterdam, 28 t. 13 c.
Genoa, 7 18
Christiania, 5
Gothenburg, 5 2
Copenhagen, 1 3
Rotterdam, 2 13
Riga, 10 12
Ammonium Sulphate—
Gothenburg, 5 c.
Antimony—
Hamburg, 1 t.
Rotterdam, 2 10 c.
Barium Binoxide—
Antwerp, 10 t. 19 c.
Rotterdam, 4 7
Barium Carbonate—
New York, 35 t.
Bleaching Powder—
Hamburg, 23 t. 13 c.
Amsterdam, 19 7
Christiania, 25 2
Copenhagen, 55 12
New York, 57 16
Rotterdam, 7 7
Riga, 111 2
Gothenburg, 40 8
Carbolic Acid—
Amsterdam, 5 t. 14 c.
Rotterdam, 5 16
Caustic Soda—
Hamburg, 99 t. 18 c.
Amsterdam, 41 15
Barcelona, 47 7
Gothenburg, 4 18
Antwerp, 22 12
Copenhagen, 8 18
New York, 135 14
Vera Cruz, 13 12
Rotterdam, 10 3
Riga, 11 9
Aalborg, 4 7
Fluor Spar—
New York, 97 t.
Gypsum—
New York, 36 t. 19 c.
Litharge—
Hamburg, 1 t. 1 c.
Genoa, 5
Magnesia—
Hamburg, 1 t. 19 c.
Manganese—
Antwerp, 3 q.
Paint—
Hamburg, 1 t.
Gothenburg, 2 c.
Soda—
Amsterdam, 20 t. 4 c.
Christiania, 23 8
Gothenburg, 8 1
Aarhuus, 21 6
Rotterdam, 34 8
Randers, 25
Soda Ash—
Antwerp, 1 t. 6 c.
Gothenburg, 5 7
Sodium Hyposulphite—
New York, 30 t.
Sulphur—
Gothenburg, 100 t.
Tallow—
Genoa, 4 t. 15 c.
Tar—
Kiel, 1 t. 3 c.
Copenhagen, 12 6
White Lead—
Copenhagen, 2 t. 4 c.
New York, 5

GOOLE.

Week ending December 15th.

Benzol—
Boulogne, 49 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 7 cks.
Hamburg, 28 80 dms.
Coal Products (*otherwise undes.*)—
Amsterdam, 20 dms.
Boulogne, 33 cks.
Ghent, 2
Hamburg, 60
Rotterdam, 32
Colours—
Amsterdam, 10 cks. 1 dm.
Rotterdam, 65 6 cs.
Dyestuffs (*otherwise undescribed*)
Ghent, 4 cks. 1 cs.
Manure—
Ghent, 100 bgs.
Pitch—
Antwerp, 854 t.
Soap—
Hamburg, 1 cs.

GRIMSBY.

Week ending December 18th.

Alkali—
Hamburg, 10 cs.
Chemicals (*otherwise undescribed*)
Antwerp, 34 cks. 50 dms.
Malmo, 5
Rotterdam, 37
Coal Products (*otherwise undes.*)—
Dieppe, 28 cks.
Hamburg, 1 4 btls.
Colours—
Antwerp, 2 cks. 2 pks.
Dieppe, 1 kg.
Hamburg, 1 ck.
Rotterdam, 1 3 cs. 2
Varnish—
Dieppe, 10 brls.

PRICES CURRENT.

WEDNESDAY, DEC. 29TH, 1897.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80°Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	0	11
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	21	5	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	2	6
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	33/-	&	31/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3¼
„ Sulphate (grey) London	per ton	9	0	0
„ „ (grey) Hull	„	9	1	3
Aniline Oil (pure)	per lb.	0	0	7¼
Aniline Salt „	„	0	0	6⅞
Antimony	per ton	30	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	6	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	6
„ 50/90 „	„	0	1	8
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7¼
„ (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	9½
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	1	5	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	8
Copper	per ton	48	5	0
„ Sulphate	„	16	0	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	12	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	9
„ „ Miscible, 60° O.P	„	0	3	8
Oils :—				
Cotton-seed	per ton	15	5	0
Linseed	„	16	0	0
Stearine	per ton	22	0	0
Phosphorus (yellow)	per lb.	0	2	0
„ (red)	„	0	2	9
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	4¼
„ Carbonate, 90% (ex ship)	per ton	16	5	0
„ Chlorate	per lb.	0	0	3⅝
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	10	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	10	0
Silver (metal)	per oz.	0	2	2½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton, o.b. w'ks.	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ o.b. w'ks.	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ o.b. w'ks.	4	0	0
„ „ (Alkali) 58 %	„ „ o.b. w'ks.	3	17	6
„ „ (Soda Crystals)	„ „ o.b. w'ks.	2	5	0
„ Acetate (ex-ship)	„	11	10	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4⅜
„ Borate (Borax)	net, per ton.	13	5	0
„ Bichromate	„ per lb.	0	0	3⅝
„ Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton, in ton lots		8	5	0
„ „ (74 % Caustic Soda) „ „ „ in ton lots		8	0	0
„ „ (70 % Caustic Soda) „ „ „ in ton lots		7	5	0
„ „ (60 % Caustic Soda) „ „ „ in ton lots		6	5	0
„ „ (pure liquor 90° Tw.) „ „ „ in ton lots		3	12	6
„ „ 77/78 % powdered (99 % hydrate)	„	12	5	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
„ Nitrite, 98 %	per ton	26	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow (Beef)	„	18	10	0
Tin Crystals	per lb.	0	0	4¼
„ English Ingots	per ton	65	10	0
Zinc (Spelter)	„	18	2	6
„ Chloride (solution, 100° Tw.)	„	5	15	0
„ Sulphate, Crystal	„	5	15	0

THE

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AND

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CURRENT TOPICS.

THE DEPRESSION IN CALICO-PRINTING.

THE beginning of a new year is the time of all times for the making of good resolutions, and although it is generally understood that the abode of the unblessed is paved with material of this kind, still the very act of formation is to be encouraged, as it frequently happens that the mere announcement of intentions leads others to achieve actualities.

It is on grounds similar to these that we venture to urge calico-printers to make good resolutions as to the future, no matter how few of them may be carried out.

The past year has made one lesson plain to many trades, and to the calico-printing industry in particular, and that is the great necessity of doing something more than merely relying on the fact that their goods are British made. The days when it was possible to trade on the principle of "these are genuine British goods, you can take them or leave them," have now to be numbered with the past. Our foreign competitors have educated or demoralised—it is a matter of opinion—foreign buyers. The latter have learned that if British makers decline to meet their wishes, there are other producers that will do so, and gladly. In fact, they lay themselves out to satisfy every whim and caprice.

After all the buyer is entitled to form his own opinion as to what he wants, and now that he finds he can have his desire, he will no longer be contented with the next best thing, even if it is of British origin.

This fact having revealed itself in numerous branches of trade, it is natural to ask—How long are British makers going to perpetuate their present domineering, would-be-monopolist policy? The times change, and it is imperative—in business at any rate—that we must change with them. Let calico-printers make a determined effort to change their styles to suit the demands of their foreign customers—and home ones, too, for that matter. Let them set to work at once encouraging and educating the rising generation to produce styles in accord with the more critical tastes of their buyers; and when the latter find that they can get what they want from British makers as well as foreign makers, we have little doubt as to which goods will be preferred. Once this preference is again established we shall not hear so much wailing and see such abject despondency amongst calico-printers.

THE INSTITUTE OF CHEMISTRY.

It has often been argued that the Institute of Chemistry do s not do very much for its members beyond endeavouring in more or less indirect ways to uphold the dignity of the profession.

It has certainly re-cast its examination system during the last few years in a way that has done much to add to the value of the Fellowship, and, thanks to the late President, has

shown itself capable of encouraging the social element to a certain ex'ent.

On the other hand, it has no journal, no interesting annual gathering, in short "no nothing" to offer its members except penalties for any infraction of the somewhat generic and onerous pledges, which the Fellows of the Institute have to undertake to fulfil.

One of these conditions which should have the attention of the Council is that which robs any fellow of his fellowship because he fails to pay his subscription. There is something almost farcical in the idea that an Institute, after certifying, upon the results of a searching examination, that a chemist is worthy of the honour of fellowship, should be able to rob him of his F.I.C. and brand him before the world as a man unfitted to hold a post as public analyst, because either through oversight or misfortune he fails to pay up his annual subscription. It would be just as logical to dub Mark Twain an incapable and inferior author because he happens to have come down in the world.

We know some means of exacting the needful guineas must be adopted, but if the Institute offered a few other advantages to members it would be just as effectual and far more reasonable to deprive those whose subscriptions were in arrear of these particular benefits.

It is for such reasons that we are pleased to call the attention of chemists to the nucleus of an excellent library that has been formed at the rooms of the Institute. At present the provisional catalogue shows that about 125 volumes have been got together, including most of the recent standard works of reference. These are at the service of Associates and Fellows every week day from 10 a.m. to 6 p.m., except on Saturdays and during the examinations. It is to be hoped that members will show due appreciation of this attempt to give them something more than a receipt for their subscription every year.

EDUCATION AND FOREIGN COMPETITION.

SIR JOHN GORST, Vice-President of the Council of Education, distributed at the Bycullah Athenæum, Enfield, recently, the prizes gained by scholars of the Enfield Grammar School. Among those present were Major Bowles, M.P. for the division, Mrs. Bowles, the chairman of the governors, and Mr. W. S. Ridewood, the Head Master.

Addressing the scholars at the close of the distribution, Sir J. Gorst said the Vice-President of the Council on Education was a bit of a sham. He did not exercise that influence on education which popular belief often attributed to him, but was more like the figurehead of a ship which turned into any channel into which the steersman was pleased to direct it. If he did not exercise much influence on the education of the country, however—fortunately perhaps, for the country—he was necessarily the recipient of a great deal of information concerning educational matters both at home and on the Continent, and could not avoid making comparisons and forming opinions. There were those who, speaking of education, declared themselves sick of hearing what was done on the Continent of Europe. He could not help hearing it, and what he heard was extremely disquieting to any patriotic Englishman. The Education Department had an officer who visited and reported upon Continental schools, and this official after a recent visit to the schools of Germany had asserted that he was terrified by what he saw there. Strangely enough he had a letter recently from a Manchester gentleman who had devoted much of his life and money to popular education, and who declared that what he had seen in Germany had filled him with terror. What he saw had induced him to advise the people of Manchester to drop party strife and religious bigotry and combine to improve the education of the city. He (Sir John) thought the days to come would witness even keener industrial competition among the Western nations, and if England was to maintain her premier position among them they must begin at once to equip their workers and men of industry and commerce generally with weapons at least as good as those wielded by their foreign competitors. He feared that the Government, the Parliament, and the people of this country would awake to the necessity for action only when it was too late. They could not make a skilled workman or an efficient man of commerce or science in a moment. It took much preparation, commencing with the school and going on to higher education, the University or the school or college of science. This could not be done in a day, and if they commenced to-morrow to reform their educational systems so as to put them on the same footing as Continental nations, it would be 12 or 14 years before a marked impression could be produced on commerce and industry. If they really meant their country to lead in the commercial world they must consider how the people could be made to enjoy as good education as the people who would one day be their competitors and were already their rivals. Some people would at once begin to cry out for the Government to do something, but, as was the case with Jupiter and the waggoner, they must put their own shoulders to the wheel. Englishmen should use to the utmost the money and the power at their disposal for the purposes indicated. He did not know that Government control in this matter would altogether be a good thing, and he would be sorry to see the higher education of the country controlled by a Minister of education. It would be a bad day for England if ever Oxford, Cambridge, Victoria, and the Universities generally were displaced in the direction of higher education by a Minister of education, however wise or prudent he might be. Local effort, local superintendence, and local activity were more likely to promote the end in view than all the Bills which Parliament could pass. The people had much power in the matter. The county councils received from the national exchequer something like three-quarters of a million which they could apply to purposes of higher education, and which some of them did so apply. Then again, urban district councils had powers for rating their districts, and so establishing schools for higher education, while in the Science and Art Department they had an organisation anxious to work with them, and prevent, as far as possible, overlapping and waste. If these powers were promptly put into full force there would be improvement at once. He rejoiced to think that the Enfield Grammar School was an example of what local effort could do, backed up as it had been by grants from the Middlesex County Council, and there was no reason why the Urban District Council of Enfield should not promote such additional technical and other instruction as might be necessary for the people with the assistance of the County Council. Whatever station in life a boy or girl might be called upon to fill it would be the better filled if they had the advantages of liberal education. Those who talked about the over-education of the country, talked nonsense. It was possible to teach the wrong things or to teach things badly. There might be mis-education, but over-education was impossible. No development of a human being's faculties could disable him from exercising his abilities in any station of life. The moral of his remarks was that if England intended to hold her own great reforms must be made in educational matters, and that the development of local interest, local management, and local funds was a more excellent way of achieving the desired end than asking Parliament to do for the country that which the country would not do for itself.

THE NEW PATENT REGULATIONS.

ON New Year's Day the old rules of practice, under which petitions for the prolongation of patents have for more than half a century been presented, gave place to a new series of regulations to which the attention of inventors and patentees ought to be called. Briefly, the scheme is as follows:—Advertisements stating the object of the petition, the day on which application is to be made to fix the hearing (a date not less than four weeks from the last advertisement in the *London Gazette*), and the day on which caveats are to be lodged, are to be published thrice in the *London Gazette*, and once at least in three London papers; where the applicant's principal place of business or manufacture is fifteen miles or more from Charing Cross, or (if he has no such place) his residence is fifty miles or more from the same centre, publication in some suitable local newspaper is also required; the petition is to be presented (with affidavits verifying the advertisements) within a week from the last *London Gazette* advertisement, and eight printed copies of the specification (or two if not printed) and eight copies of the balance-sheet are to be lodged at the Council office not less than fourteen days from the day of hearing; and within the same time three copies of the balance-sheet are to be lodged with the Solicitor to the Treasury, who, on two days' notice, may inspect or take extracts from them. Parties lodging caveats or entitled to copies of the petition must within three weeks thereafter file a statement of their grounds of objection, and are then entitled to four weeks' notice of the day of hearing. The day of hearing when fixed is to be advertised once at least in the *Gazette* and in two London newspapers. This is a mere outline of a most important system of procedure.

The Patent List.

This list is compiled from Official sources in the Manchester Technica Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Separating Tungstic Acid from Wolfram. J. Hutton. 30,053. December 20.
Solvents for Pyroxylin. F. Hutchins and L. Greening. 30,056. December 20.
Improvements in Coke Ovens. M. Brand. 30,080. December 20.
Distributing Manures, etc. R. F. Robson. 30,125. December 20.
Artificial Stone. G. Vögerl. 30,214. December 21.
Manufacture of Carbonate or Sulphate of Lead. A. H. Eyles, H. S. Rapelye, and A. Applegate. 30,247. December 21.
Manufacture of Nitrate of Soda. G. de Bechi. 30,319. December 22.
A New Oxidizing Product. C. Maichl. 30,353. December 22.
Explosives. H. Boyd. 30,442. December 23.
Recovering Acetate Liquor from White Lead. G. Bischof. 30,444. December 23.
Production of Cyanides. W. C. Seller. 30,538. December 24.
Manufacture of Matches. C. Kastner and A. Swoboda. 30,546. December 24.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in and connected with Apparatus for Concentrating Sulphuric Acid and other Liquids. T. G. Webb, Market-street, Manchester. Eng. Pat. 29,884. December 29, 1896.

This is a modification of patent 2343/91, as gaseous fuel is substituted for coal, etc. The chief alteration is that the gas is generated in a gas producer, placed under the elevated portion of the concentrating plant, and is conveyed direct to the lower end, where the concentrated liquor leaves the apparatus, thus saving waste of heat and producing the maximum temperature where it is most wanted. There are seven figures.

Improvements in the Treatment of Sewage and like Liquids. J. Pratt, 6, Spring Bank, Shipley; W. Prest, Alexandra-cresent, Ilkley; and G. B. Waugh, 42, Manville-terrace, Bradford. Eng. Pat. 1,172. January 16, 1897.

The chemicals used for precipitation are fed automatically into the sewage. A water-wheel is placed in the shute conducting the sewage to the tanks, and this operates a rocking-shaft, on which a box is placed. This box has a number of pipes fitted into holes in the sides of the box, the ends of the pipes being bent so as to look upwards. At the bottom of the box there is an exit. The whole is situated over a tank containing the precipitant, the level of the liquid being kept constant by a ball valve. As the box rocks the pipes dip into the liquid and pick up a certain volume, which is conveyed into the box, and escapes by the outlet in the bottom, away through a pipe to the sewage. There are five figures.

Improvements in Methods of and Apparatus for Concentrating Sulphuric Acid or the like. G. D. Howard, 38, Chancery-lane, London (communicated by H. Howard, of Boston, Mass., U.S.A.) Eng. Pat. 1,762. January 22, 1897.

The still is of the old-fashioned type, the novelty lying in the introduction of an appliance which automatically regulates the flow of acid into the rectifier, according to the density of the rectified acid. A syphon supplies the weak acid to a regulating tank, which is simply a small tank divided into an upper and lower compartment by a horizontal division plate. In this plate are two plug valves, operated by a balance beam, which work on knife edges, above the tank. To one extremity of this beam a float is attached by a wire, the float resting in the shorter leg of a U tube. A portion of the rectified acid drips into the longer leg of the U tube, overflows from the shorter, thus causing the float to rise and fall according to the density of the liquid The movement of the float is communicated to the balanced beam, and the plug valves are either opened or closed. Obviously they are so arranged that the denser the liquid the greater the flow of weak acid; while if the acid at the exit is below strength the flow is checked. There are five figures.

Method of Transforming Silico-fluorides and Boro-fluorides into Corresponding Fluorides or Fluorine Compounds. J. Reich, Czerningasse, 3, Vienna II., Austria. Eng. Pat. 21,073. September 14, 1897.

The drawbacks of the earlier fusion and wet processes are reviewed The method which is suggested for overcoming these drawbacks is as follows:—A mixture of an alkaline, silico-fluoride, and an alkaline earth, such as lime, in the proportion of one molecule of the former to three of the latter is heated to a dull red heat in a crucible or reverberatory furnace. An intense ignition will take place throughout the mass, and all external heat can be removed. This prevents any excessive wear and tear on the plant. The mass, after cooling, is treated with water, when the alkaline fluoride dissolves out. It can be converted into caustic alkali with oxide of lime, or by using an excess of quicklime at first it can be made direct, only in this case more external heat is necessary. Mixtures of calcium carbonate and carbon can of course be used. In fact, the presence of carbon is preferable, as it assists the commencement of the reaction. In certain cases the addition of alumina, etc., is desirable, as it shows the appearance of the incandescence, which is the signal for the starting of the internal ignition.

Process for the Production of Graphite. F. J. Bergmann, Neheim a/Ruhr, Germany. Eng. Pat. 23,957. October 18, 1897.

Acetylene is oxidized with hydrogen peroxide by heating the two together in an autoclave at 150° C, and under a pressure of 5 atmospheres. The following reaction takes places:—

$$C_2H_2 + H_2O_2 = C_2 + 2H_2O.$$

Calcium carbide may be used as the source of acetylene, the only difference being that at the end of the reaction the hydrate of lime formed is converted into calcium chloride with muriatic acid and the graphite filtered off.

DRYSALTERY SALES IN 1898.

DURING this year the following sales of interest to the trade will be held. Most of them are held at the London Commercial Sale Rooms, excepting those for drugs, which take place at the New Corn Exchange Hotel, Mark-lane; the tallow and oil sales are held at the Baltic, and those of india-rubber and a few other articles at one or other of the brokers' show rooms. The dates of public sales in calendar are those at present fixed, but may from time to time during the year be altered to suit convenience of buyers and sellers.

SHELLAC AND DRYSALTERY SALES every Tuesday at 1 o'clock. (Shellac is offered at these sales alternate weeks).

DRUG SALES, at the New Corn Exchange Hotel.—January 20th, February 3rd and 17th, March 3rd, 17th, and 31st, April 14th and 28th, May 12th and 26th, June 9th and 23rd, July 7th and 21st, August 4th and 18th, September 1st, 15th, and 29th, October 13th and 27th, November 10th and 24th, December 8th.

GUM SALES.—*Arabic, &c., Gums:* January 27th, February 24th, March 24th, April 21st, May 19th, June 16th, July 14th, August 11th, September 8th, October 6th, November 3rd, December 1st. *Varnish Gums:* January 13th, February 10th, March 10th, April 7th, May 5th, June 2nd and 30th, July 28th, August 25th, September 22nd, October 20th, November 17th, December 15th.

INDIA-RUBBER SALES every Friday, at 12 o'clock, at one or other of the brokers' show rooms.

EAST INDIA INDIGO SALES commence January 24th, April 18th, July 11th, October 10th.

GUATEMALA INDIGO SALES held probably March 7th, July 21st, and October 18th (definite dates fixed at conclusion of East India Indigo Sales.

ISINGLASS SALES at 12 o'clock.—January 18th, February 22nd, March 22nd, April 19th, May 24th, June 21st, July 19th, August 30th, September 27th, October 25th, November 29th.

HORNS, BONES, &C., SALES at 11 o'clock.—February 24th and 25th, May 26th and 27th, August 18th and 19th, November 17th and 18th. (Sales of deer horns and bones take place on first day—buffalo, ox, and cow horns, &c., on the second day.)

TALLOW SALES every Wednesday at 12 o'clock, at the Baltic Sale Rooms South Sea House.

NOXIOUS FUMES FROM CHEMICAL WORKS.—A deputation representing the Manchester and Prestwich Boards of Guardians waited on the Sanitary Committee of the Manchester Corporation last week, to ask that something should be done for the purpose of stopping or bringing about an abatement of a nuisance which is said to be caused by the emission of noxious fumes from chemical works in the Crumpsall district The representatives of the Manchester Board were introduced by Mr. Harrop, and the representatives of the Prestwich Board by Mr. Briggs, and the Committee was addressed by Major Ballantine, Mr. Laycock, Dr. Ashe, and Miss Girdlestone (matron of the workhouse infirmary at Crumpsall). It was stated that the health of the inmates of both the Crumpsall and Prestwich workhouse infirmaries is very seriously affected by the alleged nuisance. Mr. Alderman Walton Smith, who presided, promised that the representations made by the deputation should be carefully considered by the Committee.

SAFE OIL AT LAST.

SAFE OIL AS CHEAP AS THE "DEADLY 73°."

IT was stated before the Parliamentary Committee that Russian oil of over 100° Abel would be supplied for the same cost as 73° oil, provided the American producers were made to supply 100° oil also. It now appears that the Rothschilds, who are interested in many Russian oil wells, have decided to fight the Standard Oil Company rather than be "absorbed." What is more, they have decided not to be excluded from the English market any longer, but to supply the safe oil at once.

According to the *Star*, they and the refiners acting with them declined to re-enter the Baku Union of 1894 when its three years' term expired, but set to work to create their own independent selling organisation in England, exactly like the Anglo-American Oil Company. It has been a work of difficulty, and it entailed a vast outlay upon which none but the princes of finance could enter. Espionage dogs the steps of the English oil trade, and the business methods, whose application in America we have often described, are in very active operation in this country. We hear of carmen dogged, of hasty visits to oil traders, sudden agreements, sudden reductions in price, and all the other devices of the unjust steward, with whose story our friend, the "Richest Baptist on Earth," will be so familiar. Six months ago not a gallon of Russian oil could get to the English consumer except by the permission and under the control of the Standard Oil Company; to-day the Anglo-Caucasian Oil Company, of 18 and 19, Great St. Helen's, E.C., is an accomplished fact. Depôts have been opened, storage plant is being erected, tank waggons are working in Manchester and Liverpool, and as soon as time permits the whole country will be so covered that every dealer can get Russian Oil if he chooses.

Fortunately for the English poor, this dramatic development has more than an economic significance. Without waiting for Parliament or for the experts, the Rothschilds have struck a blow at their opponents which, as sure as night follows day, must eventually bring ruin to the low-flash cause. Hitherto all Russian oil has had a flash-point of about 85° Abel. The Anglo-Caucasian Oil Co. (representing the Rothschilds) is putting on the market its new "Anchor" brand—a water-white oil with a flash point of 103° *at the same retail price* as Rockefeller is selling his 73° "Tea Rose" or "Royal Daylight." While professed guardians of public safety like Dr. Dupré are telling the public that to raise the flash point must greatly increase the cost of the poor man's oil, this startling refutation is flung in their teeth—not by sentimentalists or agitators, but by plain business men, who, having invested their money in the oil trade, are going to work it on sound business lines.

THE "ANCHOR" OF HOPE.

The first cargo of "Anchor" brand oil is now in Manchester, and has been tested by Mr. Boverton D. Redwood, whose business connection with the Anglo-American Oil Company makes him a peculiarly critical witness. We understand that his report shows that its flash-point is 103° Abel, and its illuminating power quite equal to American water white. Its colour is of the best, and it is claimed by the Anglo-Caucasian Oil Company that it will burn more economically than the American, give a better light, and be absolutely safe because it is more homogeneous. Much of the American oil is "mixed," and the "tops and bottoms" of the refinery never produce so satisfactory a burning oil as Nature can produce in her own laboratory.

Here, then, is the answer to the question that has so often been put to *The Star*: "'Tea Rose' (or "Royal Daylight") is, you say, dangerous; what are we to burn while Parliament and the experts are wasting time?" If the public really care for a safe article they must now insist on their oil-dealers getting the "Anchor" brand and selling it at the same price as "Tea Rose." We know, of course, what excuses the dealer who has tied himself up in Rockefeller's ingenious double knots will make, but if the customer is firm he will have to get it in the end.

If the traders ask what guarantee they have that the Anglo-Caucasian Oil Company has come to stay, and will not abandon them to the tender mercies of Rockefeller hereafter, we reply—

1. The great financial power and prestige of the Rothschilds.
2. The large sums they are investing in plant here.
3. The fact that their large interests in the Caspian and Black Sea Refining Company and other Baku companies with an inexhaustible flow of petroleum to sell, must make them in their own interests the opponents and competitors of the Standard Oil monopolists; and
4. The fact that the "Anchor" brand of safe, cheap, white oil is not a philanthropic experiment, but an article of commerce sold for a profit.

We confidently predict that the emancipation of the Russian trade will bring freedom to the English trader, safety to the English home, and enlightenment to the English Parliament. As for Rockefeller, let him dump his 73° oil somewhere else. We have no use for him.—*The Star.*

Reports of Companies.

CHLORO-CYANIDE EXTRACTION CO., LTD.

AT the last ordinary general meeting of this Company, the manager of the Company said: I think it will be as well to give you a short account of the components of the chloro-cyanide salt and its advantages, as I have been asked for that information by several shareholders. The salt is composed of a compound of common salt with ferro-cyanide, or its equivalent. These salts are fused together, and form a new compound—viz., the chloro-cyanide salt. This salt can be produced very cheaply, and is a staple compound; its components can be varied considerably, so as to adapt it to different requirements; this is of great advantage, as it enables us to make a salt for various purposes. This fact enlarges our sphere of action, and brings it within the scope of other industries besides that of the discovery of gold. We have obtained patents in 16 different countries, some of which, such as Germany, France, Belgium, and England, are not large producers of gold; but it was thought necessary to take out patents in these countries simply to protect the manufacture of the salt. Amongst the varied uses of our salt to which I have given a considerable amount of time is that of electro-depositing. I find the salt particularly well suited for that purpose, having many advantages over any salt at present in use for depositing gold, silver, and other metals. This fact makes a new departure for the salt in the countries where gold is not produced. I am now making experiments with the salt for the recovery of silver, copper, and zinc from low-grade ores, and have had very good results. This will, I have no doubt, open a very large field for the use of the chloro-cyanide salt, as it will enable low-grade ores that will not pay for smelting to be treated by chloro-cyanide. I am also working in another direction, connected with electricity, where very large quantities of the salt can be used, but the experiments are not far enough advanced to publish it. It will be seen that our salt can be used for various purposes besides that of dissolving gold. I have no doubt that it is applicable to many more purposes than I have set out, but these will come in due course. I have thought it best to set out what has been done in other directions with chloro-cyanide before I touched upon the subject of the recovery of gold by that salt. My object is to show that we have a most valuable salt, and that at present we do not know the limit of its uses. We are the patentees, and have the sole right to manufacture and use it. Unlike the Cyanide Company, which has no rights to manufacture potassium cyanide, but simply claims in its patents the use of a weak solution of a well-known salt, or, as in the case of the Bromo-Cyanide Company, the addition of bromine to a well-known salt, potassium cyanide—our salt is an entirely new product, and, I have no doubt, a new compound. This I shall be able to prove if we are ever attacked on this point. You will see by the report that we have not yet obtained a patent for one of the most valued countries for gold recovery. This has kept us from exploiting the process for gold recovery, but we are in hopes of obtaining that patent shortly. It is most annoying that we have had the delay and opposition with the patent, especially taking into consideration the fact that after obtaining patents in Germany, America, and 14 other countries—in fact, all countries where we have applied for them. I have made tests and workings of a large number of different ores from various countries during the past year with chloro-cyanide salt by simple percolating processes, and also with special apparatus I have designed for the recovery of gold from ore that cannot be treated by leaching processes. This class of ore, containing as it does large quantities of clay or slimy matter, prevents solutions percolating through the sand. The present method of treating such ores is to separate the slimes from the sands and treat them separately. This difficulty I have tried to overcome by a process in which the slimes and sands are kept in continual motion until the gold is dissolved by the chloro-cyanide solution, and at the same time recovering the coarse gold. In this process there are appliances and apparatus that will have to be protected by letters patent; therefore I think it best not to publish the matter at present. The West Australian ores that I have had to treat have contained quite 50% of slimes. I have in many cases recovered as high as 98% of the gold contained in these ores; but, of course, so much depends upon the ore and the conditions at the mines. In conclusion, all I can say is that I think it is impossible to produce another salt to compete with chloro-cyanide as to price and efficiency.

SANTA ELENA NITRATE COMPANY, (LTD.)

The eighth annual general meeting was held last week at Winchester House, Mr. A. R. Robinson presiding. In moving the adoption of the report, the chairman stated that by stopping the production of nitrate they had saved not only a serious loss, which they would have had to meet had they continued, but they were able to show a profit, although only a very small one, on the year's transactions, mainly owing to the sales of their iodine. When they decided to close their oficina, they were, he thought, almost the first in the field in foreseeing that that

was the proper step to take. They had thus saved the company several thousand pounds, and they could only congratulate themselves that the result, poor as it was, was not worse. He regretted to state that the nitrate industry at present was in a very parlous state, and how the price of nitrate was to be raised to a price at which it would pay to produce it was a problem which he did not think anyone was that day in a position to say he could see his way to solve. He presumed that all they could do was to wait patiently until the market supplies were exhausted and the price again reached a level which would pay. About a year ago, when the price of nitrate was 5s. 6d., they entered into negotiations with one of the neighbouring companies to take over some grounds which the latter had and to put up their machinery there and carry on working. They had a report on the grounds supplied to them, and it appeared from this that they could make nitrate at a price of about 4s. 9d. At 5s. 6d., therefore, a profit could be made. The negotiations had gone to such a point that he might say they had almost concluded when, the combination having terminated, the price of nitrate tumbled down to the present almost incredible figure of 4s. 9d. It was, therefore, no use for them to expend money in putting up machinery on new grounds to make nitrate at 4s. 9d. and sell it at the same price. They therefore had to give up any idea of carrying out the scheme, but he might state that he had received assurances from the company they had been negotiating with that the grounds in question were still at the company's disposal. If, therefore, prices should reach a level at which they could make a profit they would erect their machinery, and he thought that in that case they would be able to make a profit and get within sight of a dividend. They had reduced all their expenses to an absolute *minimum*—about £600. a year. The directors themselves had drawn no fees. The stock of iodine in London stood at the 30th of June at £5,000. taken practically at cost price. They always made a profit on this, and they would thus be able to maintain the property of the company in good condition. Personally, he thought they would see difficult days for some time to come, but it was a long lane that had no turning. Mr. Thomas P. Baptie, in seconding the motion, said he thought it was something to be enabled to say that they had avoided a large loss; and in such times as they had gone through it was not altogether undeserving of congratulation that they had made a trifling profit. The directors would stick to the ship as long as it floated; and it was possible, with matters so bad as they now were, that even those persons on the west coast who had done so much, he feared, to bring about the existing difficulty in the nitrate industry, would realise that they were committing slow suicide and agree in the desirability of adopting a more sensible policy. The report was unanimously adopted.

CLIPPENS OIL COMPANY.

The fifth ordinary meeting of the shareholders of the Clippens Oil Company (Limited) was held last week in the company's office, Royal Exchange Square, Glasgow. Mr. W. S. Brown, the chairman, presided.

The Chairman, in moving the adoption of the report, which has already been published, said:—After the present company was formed in 1893, and your directors took control of the business, they found that they had undertaken a much more serious task than they had anticipated. It became apparent that the works management would require to be entirely rearranged and reorganised, and that a very large expenditure of capital would be necessary in order to put the mines and works into such a condition as would make it possible to reduce working costs to a very large extent. We were severely handicapped for want of capital, and yet we saw that with the existing state of things it would be difficult, if not impossible, to earn dividends. The prospects of the oil trade were not very encouraging, and it was only after long and anxious consideration that we decided to proceed gradually with the alterations and additions which we considered absolutely necessary. Our difficulties were much increased by the heavy losses sustained through the high price of coal and the partial stoppage of our works during the strikes in that trade, as well as by strikes and disturbances among our own miners. Latterly, I am pleased to say, we had no trouble with our own workmen. The disturbing elements among the miners having disappeared, we were fortunate in retaining a body of steady and respectable men, who appeared to have gained confidence in the management. In pursuance of our policy during the four years ending June last, we had, in addition to the usual unkeep charges, spent out of revenue about £30,000. in alterations, additions, and new plant. This extraordinary expenditure ceased about the end of last year, and the benefits accruing from it quite met our expectations, and was indicated by our balance-sheet for that year, when notwithstanding adverse markets and a proportion of this extra expenditure we had a profit after meeting all charges. The improvement continued during the first six months of the present financial year, which showed a credit balance also after providing for all charges. This was all changed during the second half of the year, when the interdict at the instance of the Edinburgh and District Water Trust stopped some of our mines, and so restricted our working as to cause the heavy loss shown in our balance-sheet; and eventually, as the least of two evils, to close our works entirely, necessitating the discharge of over one thousand workmen, including foremen and leading men of our working staff, many of whom had been connected with the works for over twenty years, and whose places it will be difficult to fill.

DALMENY OIL COMPANY, LIMITED.

The directors of the Dalmeny Oil Company (Limited) have resolved to recommend to the ensuing meeting of their shareholders a dividend at the rate of five per cent. per annum on the preference shares, and at the rate of 7½ per cent. per annum on the ordinary shares. After providing for these dividends there remains a balance of £2,122. 13s. 1d. at the credit of revenue account for the year ending 31st October, 1897, and the directors recommend that of this sum £2,000. be applied to "new retorts account," and that the balance of £122. 13s. 1d. be carried forward.

INDUSTRIAL REVIEWS OF 1897.

Aluminium.—This is a rapidly growing industry, and the hold it has already obtained in Scotland testifies to the wisdom of those who, despite prejudice and narrow-minded opposition, introduced it into the country. The principal producing centre is, of course, at Foyers, where a great quantity of material is regularly turned out. At present arrangements are nearly completed for the erection of two further large turbines and dynamos. The alumina works at Larne are also to be increased in size to meet the increased consumption. The rolling-mills at Milton, Staffordshire, have been greatly increased during this year, and at the present moment additional plant is being erected, which is expected to be ready early next year. The special qualities attaching to aluminium and its alloys enable it to be introduced for the manufacture of fresh articles as its properties become more generally known, and, no doubt, by the fact of the rapid progress the metal has already made, the industry will at no very distant date be one of the biggest and most important in the United Kingdom. The steelmakers are using the metal largely, and it is a cheap insurance against bad castings. One large steelmaker estimates his saving at £2,000. per annum from this source alone. Further, a consideration to the melter is that he will get through his heat from one to two hours quicker when aluminium is used. Several boats are presently being built by Messrs. David White and Co. for Africa. They built one about a year ago for South America, which was highly approved of. Messrs. James Milne and Son, Limited, of Edinburgh, obtained the silver medal at Leeds exhibition for fire-hose fittings in aluminium, and at the recent fire in York-street the Glasgow Fire Brigade used aluminium fire-hose fittings, supplied by Messrs. Arch Watson and Co. of this city, and these fittings gave great satisfaction. Aluminium tubes are coming in largely to use as mandrils in the making of indiarubber tubes, also for bicycles, curtain rods, and many other purposes. For cooking utensils aluminium is unequalled, and many tons per week are being used for this purpose. For lightness, non-corrosion, and appearance these are unapproached. It is also being largely used for ship and house fittings, railway carriage fittings, and torpedo work.

Soap.—1897 has been the year of depression in the Scotch soap trade, due partly to the continued fall in prices and partly to very keen competition. Prices of raw materials moved downwards until May, when fine mutton tallow touched 19s. and palm oil 17s. 3d. In November the reduction of stocks in London and of shipments of tallow from Australia caused a slow advance, which has brought fine tallow to 22s. 6d. and palm oil to 18s. 3d. The specially high prices of the finer qualities of tallow at present appear to be due to some extent to the great demand for fine tallow in the manufacture of sweet fat for butterine purposes. In spite of the rise in the prices of materials the prices of soaps have not yet been raised. Ordinary pale soaps are at present at very low and unremunerative prices, and must be advanced soon if the firmness in the market for raw materials continues. Amongst changes which have taken place may be mentioned the completion of a new soap works at Leith for a co-operative society, and the appearance of a soap made by an improved and patented process, in which the hot liquid soap direct from the pan is rapidly dried, cooled, scented, and pressed into tablets, with the saving of two to four days occupied by the usual process in cooling the liquid soap in large moulds or frames. In the soft soap trade the chief new feature has been the increasing use of maize oil. The low price of this oil has enabled it to be used largely in place of cotton oil, and this has contributed to keep fine soft soap at a low price.

White and Red Lead.—To a certain extent the former, and especially the latter, have followed the course of pig lead. On the whole prices have been well maintained. The demand has been slightly less than usual, owing, doubtless, to the engineers' strike. Prices close at £18. 10s. and £15. 10s per ton respectively.

Flint Glass.—This trade has not been in a satisfactory state during

the year, workmen not having been fully employed. The glass makers have been better off than the glass cutters, etchers, and engravers, and although the number of workpeople employed is less than it was years ago, there does not appear to have been any reduction in their number during the past year. There is no indication of an increasing trade, but, on the contrary, there is evidence of a decreasing one. The trade is going more extensively into the hands of foreigners, who copy the British style of hand-made goods, and by their plan of blowing the goods in moulds, and cutting off and melting by a compressed air and gas flame process, are able to produce goods equal in appearance to those of British make, and sell at half the price of British glass. The workmen in the Glassmakers' Union Society are well aware of this, and although they have a large number of their members out of employment, and drawing on the funds of their society, they make no real effort to remedy it. They profess to be willing to work according to the Continental mode of working, but British glass manufacturers have found out there is not much earnestness in the endeavours. The men do not like the system. It works metal out too fast, and reduces the work of the other chairs, and, as they say, is spoiling their art of glass-making—as a "duffer" of a footmaker can produce goods blown in moulds quite as well as a first-class workman who now fashions articles by hand workmanship.

In every country in Europe where flint-glass is made the trade has been an increasing one except in Great Britain, and even in America there has been great progress, notwithstanding the high wages paid. The men work harder and produce more work in a given time, and, as an American put it, "they have not to take a day to do a two hours' job."

Foreign flint-glass manufacturers are able to fill and work their pots to glass out two or three times in a week; their expeditious plan of blowing decanters, tumblers, and other goods in moulds enables them to do so. The furnace is used for melting the materials for producing glass, whereas by the English mode of making hand-made goods a pot, as a rule, is worked out only once a week, a pot being used for men to work at in melting and forming the goods as well as for containing metal run. It stands to reason if a foreign glass manufacturer can have two or three pots of metal melted at the same cost for fuel as a British manufacturer has to pay for melting one pot, and that by the Continental plan three times as many goods can be produced in a given time, and the men work at least double the number of hours for less pay than is paid for the few number of hours here, while this state of matters continues there is no chance of regaining any of the trade which foreign manufacturers have snatched from the British makers. Glass-makers allow one apprentice to five workmen, but an apprentice cannot be put on to oust a journeyman, and as the trade is a decreasing one, there is little chance of a young man's advancement, and on that account there is difficulty in procuring even the limited number of apprentices for the trade. Glass-cutters allow one apprentice to five workmen also, and this is quite as many as some glass manufacturers could put in—in fact, some put in less, as owing to the common and medium class of goods having gone into the hands of the foreigners they have not such work to put into the hands of apprentices to commence learning the trade, and to put expensively cut work into their hands would be spoiling it. The Glassmakers' Society have plenty of funds, and as they have lots of unemployed members they might start a glass-house on the Continental plan, and if their members would work the same number of hours and at the same pay there is no reason why they should not regain some of the trade. They cannot expect their employers to start a works on the Continental plan and employ union workmen—and such are only employed in Scotland—when the only glass manufacturers carrying on the Continental plan of working employ non-society men, some of whom would never have left the society had there not been a strike at the works in connection with the making of goods on the Continental plan.

Cleveland Chemicals.—The trade in chemicals has been somewhat irregular during the year, both in quantities and prices. During the first six months there was a considerable falling off in shipments as compared with the first part of 1896, but the latter half of the year improved so much that the lost ground was fully recovered. This applies more particularly to the alkali trade, which was unsettled during the earlier part of the year owing to negotiations between the English and Continental makers. Meantime, the two largest alkali makers had absorbed the smaller ammonia alkali works, and latterly came to an arrangement with the German syndicate, and ammonia alkali and soda crystals were advanced in price about 10s. per ton. Chlorine products, on the other hand, while gaining in quantity, have been gradually getting easier, and although bleaching powder has maintained its price fairly well, chlorates have dropped considerably, and are now at the lowest figures for the year. Negotiations have been in progress with regard to bleaching powder, but seem meantime to have fallen through. Improvements in method of manufacture have reduced costs considerably, so that our manufacturers will still be able to hold their own at home and in most markets abroad. Opinion is divided as to whether electrolysis or the nitric acid process is the least costly, neither being long enough at work to demonstrate fully their advantages, and the ultimate result depends much upon the plant adopted. In chemicals of local manufacture we continue to maintain our position, although at some cost, as prices generally have dropped during the year. In some instances the reduction is compensated by a corresponding fall in cost of raw material and increased demand. This is notably the case with borax. Price of this article at the beginning of the year was £19. to £20. per ton, while it is now reduced to £14. to £15. Prices of raw material have also fallen, however, and the sale is very much increased, so that this branch may be considered as in a healthy condition. Other local products are bichromates of potash and soda, which have been reduced by ½d. per lb. This business was and is still worked by a syndicate, and prices are fixed by them, but the profits seem to have tempted other firms to go into the trade, so that there are now about a dozen more manufacturers at home and abroad than there were in existence at the commencement of the convention. The demand is still good, and likely to increase as prices drop. Prussiate of potash and soda have also had considerable fluctuations in prices owing to differences among the manufacturers. Notwithstanding, a large trade has been done, and prices have gained about the level at which the year started. The acid trade has been steady, without marked feature and much change in prices. Lead products have been dearer owing to advance in lead. Prices close generally easier. Cyanide of potassium is a developing trade with us. Two new works have been erected in Scotland during the year, and, it is hoped, will be producing fair quantities at an early date. The trade in acids, etc., obtained from wood distillation, continues to decline both in quantity and prices owing to falling off in demand from printers and dyers, and can only be said to be struggling along, hoping for better times.

As regards the *Manchester District*, it is difficult to gauge with accuracy the progress or otherwise of the chemical trade for the past year, and undoubtedly much uncertainty prevails as to the future. While the frequent reductions in wages both in Lancashire and Cheshire, coupled with the fact that bleaching powder has dropped £1. per ton for next year's delivery, point to a rather precarious state of things, yet it is noteworthy that during the year there has been a race amongst the pioneers of various new processes for the cheapening of production, so as to meet foreign competition. There is also the fact that the prices of miscellaneous articles cannot go lower, and as the year closes many of them show an advancing tendency. A brief glance at our imports and exports for the past eleven months will be found interesting, and, on the whole, far from discouraging. Our imports of chemicals, dyestuffs, and tanning substances certainly show a decrease of over half a million in value, but this is to some extent compensated for by the exports of chemicals and medicinal preparations, amounting to £7,957,214. in 1897, as against £7,513,352. in 1896. In bleaching materials the quantity exported in 1896 was 1,030,410 cwts., as against 1,067,628 cwts. in 1897, the values being £365,916. in 1896 and £339,541. in 1897 respectively. The exports of alkali show an increase in value of £66,618, and the decrease to the United States is not so great as might have been expected. Russia and the Continental nations show a steady increase, and there appears to be a fair prospect that this increase will continue. The production of alkali in the United States has been very rapid. The Michigan Alkali Company is producing 400 tons per week of high strength caustic soda, and other companies are getting to work, so that the prospect for English-made alkali is very bad, darkened as it is by the action of the Dingley Tariff. Much, however, is hoped for from the cheapening of the source of chlorine and the development of new processes. Whether the progress of the various electrolytic processes will be as rapid as some people think is still open to question. As regards prices generally, independent of those indicated above, there has been no wide range of variation. Coal-tar products have fallen as a rule, and in naphthas there is an indication of foreign competition.

FIRE AT AN OIL WORKS.—Last week, at the Liverpool Seed-crushing Company's works, a large pan of oil took fire, and set the premises in a blaze. A workman named Robert Davies, while trying to put the flames out before the brigade arrived, had his clothes set on fire, and was shockingly burnt. He is at the hospital in a critical state. Before the fire was subdued considerable damage was done, a large portion of the oil on the premises being consumed.

CHANGES OF ADDRESS.—*The Aluminium Supply Co., Ltd.*, state that the great increase in the demand for aluminium in all its various forms has compelled them to increase their facilities for handling their business, and they beg to notify that on and after the 1st of January, 1898, their offices will be at 95, Colmore-row, Birmingham, to which address all correspondence should be sent. *Messrs. White & Woodington* advise us that the house in which they have for many years occupied offices has been taken over by the Government in order to admit of the extension of the Patent Office. They have consequently removed to a new building opposite, and their address in future will be White and Woodington, Rooms 221 to 225, Birkbeck Bank Chambers, Southampton Buildings, Chancery-lane, London.

THE USE OF EXPLOSIVES IN MINING.

FURTHER REPORT OF THE TESTING COMMITTEE.

THE further report of the Departmental Committee appointed by the Home Secretary to inquire into the testing of explosives for use in coal mines has been issued. The Committee consisted of Mr. H. H. S. Cunynghame, Assistant Under-Secretary of State for the Home Department (chairman), Colonel Sir D. V. Majendie, Chief Inspector of Explosives; Mr. Clement Le Neve Foster, D.Sc., F.R.S.C., one of the inspectors of mines; Mr. Henry Hall, one of the inspectors of mines; and Captain Jocelyn H. Thomson, R.A., one of the inspectors of explosives; and they were instructed to inquire into the best tests to determine the safety of explosives in coal mines, and as to the means to be adopted by the Home Office for applying such tests for the purposes of special rules to be proposed by the Secretary of State under section 1 of the Coal Mines Regulation Act, 1896, or of orders to be issued by him under section 6 thereof. By a warrant of the 25th of August last, Captain A. M'Neill Cooper Cooper-Key, R.A., was appointed an additional member of the Committee.

The report, which is addressed to the Home Secretary (Sir Matthew White Ridley), says:—"You are already in receipt of our first report, wherein we recommend the erection of a station for testing explosives for use in coal mines. You approved of this recommendation, and in accordance with your orders a testing station was erected on June 5th. After preliminary experiments the apparatus was tried in the presence of a number of members of the Federated Institution of Mining Engineers, and behaved in a very satisfactory manner. Since its erection the testing station has been in constant use, and upwards of 700 shots have been fired under the personal supervision of Captain Cooper-Key, R.A., the results of which have furnished a great deal of valuable information. In no case has any accident happened to the apparatus, and we are not at present able to suggest any further modification or improvement of it. The apparatus consists of two parts—one part for testing in gaseous mixtures, and the other in mixtures of coal dust and air. Owing to the great difficulty in obtaining pit gas of uniform composition, the Committee decided from the beginning that coal gas only should be used, it having been, in their opinion, abundantly demonstrated in experiments carried out elsewhere that coal gas is certainly not less inflammable than fire-damp from a mine. The Committee's experiments further prove that mixtures of coal gas and air are considerably more inflammable than mixtures of coal-dust and air. Moreover, there is no difficulty in obtaining coal gas which shall always be of the same composition, and inflammable gaseous mixtures can be made with far greater uniformity than mixtures of coal-dust and air. The Committee have, therefore, decided to recommend that explosives should be tested in a highly explosive mixture of coal gas and air only, and they feel confident that any explosive which shows itself superior in this mixture would exhibit the same increase in safety in the presence of a coal-dust mixture. With regard to the uniformity of the gaseous mixtures obtained with the apparatus, samples from various parts of the gallery have been repeatedly tested, and have invariably been found to be explosive on application of an electric spark. In addition to this, the whole mixture has been frequently submitted to the test of firing a few grains of powder in the gallery, and this has never failed to produce a violent explosion. In case any doubt should remain on this point, arrangements have been made to submit samples of the gas to chemical analysis. Should this more delicate test discover a want of uniformity which could in any way affect the test, the defect will be removed by working the mixing fan for a longer period. (N.B.—The analysis has since been made, with most satisfactory results.) In our opinion, the best method of experimentally comparing the power of one explosive with another is that known as the Tranzl method, and consists in firing small charges of the explosives to be compared in the centre of lead cylinders, and then measuring the enlargement of the cavities. This method is the one which was employed by the War Office Committee on Explosives, and is, we believe, generally accepted as being the most satisfactory. As above stated, however, no comparison of this kind can attain any degree of scientific accuracy, and undoubtedly as usually employed the Tranzl method of comparison becomes less trustworthy where the explosives to be compared differ considerably in power. The Committee find, however, that this source of inaccuracy can be largely reduced by varying the charges fired so as to obtain approximately equal enlargements in the lead cylinders. With this modification it is believed that the method is sufficiently accurate when one high explosive is compared with another, but that it is not to be relied on when comparing a high explosive with gunpowder, owing to the much slower action of the latter. The Committee therefore have assumed the power of high-grade gunpowder, to be one-third that of 'dynamite No. 1,' that being the usual estimate, and propose to compare all explosives fired without a detonator with a given brand of service gunpowder known as 'R. F. G. 2.' With such explosives further confinement will be given by placing a heavy mass of metal over the opening in the lead cylinder. The size of detonator used in all the experiments has been that recommended by the manufacturers of the particular explosive, and in nearly every instance this has been found sufficient to produce a complete explosion of the charge. On several occasions during the experiments a phenomenon has been observed which is somewhat difficult to account for—viz. an ignition of the gaseous mixture at an appreciable interval after the shot has been fired. This would appear to be due to some cause other than the heated gases produced by the explosive, and there is good reason to believe that the ignition may be due to the gun itself. It is found that after a certain number of rounds have been fired the surface at the base of the bore becomes encrusted with a species of slag formed from the admixture of the stemming with the metal of the gun in a molten condition. This slag would be a bad conductor of heat, and it is quite possible that some portions of it may remain for a second or two at a sufficiently high temperature to ignite the gaseous mixture as soon as the latter finds its way back into the gun. In the official tests this phenomenon will be carefully noted when it occurs, and the discretion of the officer in charge of the testing will be used as to whether a repetition of the shot may be allowed. Taking into account the general results of the experiments, the Committee have drawn up a list, and recommend that this should be applied to all explosives which are submitted for inclusion in the permitted list. Before framing the proposed test the Committee carefully considered the results not only of their own experiments, but also of those carried out at other places, the evidence and report, dated 13th June, 1894, of the Royal Commission on explosions from coal dust in mines, and the various special reports upon the explosions which have occurred in past years. It must not be supposed that an explosive which has passed the test is thereby guaranteed as absolutely safe for use in dangerous mines. Probably no explosive exists which could be so guaranteed with every kind of stemming—unstemmed, of course, all explosives are dangerous. The test is purely a comparative one, and all that can be said is that explosives which pass are in general safer than those which fail. To some it may appear alarming that an explosive which in the testing apparatus with a smaller charge than that usually employed in practice has caused two ignitions in 40 shots may still find a place in the permitted list. It must be remembered, however, that each shot in the apparatus represents a blown-out shot, a somewhat rare occurrence in a mine, and that the inflammability of the gaseous mixture employed exceeds that of any atmosphere ever likely to be present in a mine. Moreover, the committee feel confident that if their recommendation as to the use of wet stemming with all explosives in dangerous mines be adopted, a large measure of additional safety will be gained. It cannot be too clearly understood that the explosives which will be tested will be those sent for that purpose by the maker. Hence, all that the test will establish is that an explosive made in the best manner, according to a certain formula of composition, is relatively safe. But even though a particular explosive may pass, yet if as supplied to the public it is of bad manufacture or badly stored or improperly used, it may still be a source of danger. Hence, no tests that can be devised will dispense with the necessity on the part of those who purchase and use explosives to see that they procure one of a good quality, and that it is used with the proper detonator and stamped and fired in a workmanlike and careful manner. In spite of all that can be done by the prohibition of relatively dangerous explosives, explosions will still be likely to occur if care is not taken in handling even the safer explosives, and the responsibility must always ultimately rest where it now is—on the owners and the miners—to choose out of the permitted list in force from time to time the explosives which they believe to be the safest and best, and to use them with every precaution. Moreover, as our experiments all tend to show that there is at present no such thing in existence as an absolutely safe explosive—that is to say, an explosive which in no conceivable circumstances could set fire to gas—and as we anticipate that the progress of science will give rise to great improvements, we think that notice should be given by the Secretary of State that he will revise the permitted list from time to time, altering, if need be, the conditions of the tests. If at any time an explosive is found in practical use to have caused explosions, or on examination or re-testing to be of bad manufacture or otherwise likely to be dangerous, the committee recommend that the Secretary of State should, after such special inquiry as he may direct, remove the explosive altogether from the permitted list, or prohibit its use when made by any particular manufacturers."

ELECTROLYTIC COPPER.—There seems very just ground for the complaint made by Messrs. James Lewis and Son, of Liverpool, who "think public attention should be drawn to the fact that the War Office invites tenders for 250 tons of electrolytic copper, specially stipulating that it be of American make, although electrolytic copper of equally good, if not superior, quality is made by several English firms, who contribute largely to the taxation of the country." The name of Messrs. Lewis is a sufficient guarantee of the truth of the statement. It is to be feared, however, that the complaint is too late in the present case, as the tenders have been closed; but it certainly is a matter which should not be lost sight of.—*Financial News.*

ALFRED NOBEL'S WILL.

INCLUDING £216,901. 19s. 3d. in England, the personal estate in the United Kingdom has been valued at £434,093 of Mr. Alfred Nobel, of Avenue Malakoff, Paris, and Villa Nobel, San Remo, the inventor of dynamite, technical director of Nobel's Explosives Company, Limited, who died at San Remo on the 10th December, 1896. Payment of numerous legacies is ordered. The capital of the whole of the remaining realisable property of the testator is to form a fund, the interest from which is to be annually divided into five prizes to those who during the preceding year have done most for the benefit of humanity. The interest is to be divided into five equal parts, of which one part is to devolve upon him who within the department of natural philosophy has made the most important discovery or invention, one other part to him who has made the most important discovery or improvement in chemistry, one other part to him who has made the most important discovery within the department of physiology or medicine, one other part to him who within literature has produced the most excellent work in an idealistic direction, and one part to him who has worked most or best for the fraternisation of the nations and for the abolition or diminution of standing armies, as also for the promotion and propagation of peace. The prizes in physics and chemistry are to be awarded by the Swedish Academy of Sciences, for physiological or chemical work by the Carolinian Institution in Stockholm, for literature by the Academy in Stockholm, and for the propagation of peace by a committee of five persons to be elected by the Norwegian Parliament. The will continues :—"It is my express will that at the distribution of prizes no regard is to be paid to any kind of nationality, so that the most worthy competitor may receive the prize, whether he be a Scandinavian or not. Finally, I ordain—this being my express wish and will—that after my death my arteries are opened, and that after this has been done, and distinct signs of death have been attested by competent physicians, my corpse shall be burned in a so-called cremation furnace."

Trade Notes.

AMALGAMATION IN THE CHEMICAL TRADE.—The Oldbury Alkali Company and W. Hunt and Sons, Leabrook Chemical Works, Wednesbury, have arranged a scheme of amalgamation which came into operation on January 1st. The new firm will be known as "Chance and Hunt, Ltd.," and both works will be continued as usual for the present. The chemical works at Oldbury have been established over 60 years. Some time ago it was formed into a limited liability company for family reasons, the members of the firm being Mr. Henry Chance and his son, Mr. James Timmins Chance and his son (Mr. G. H. Chance), Mr. A. L. Chance and his son, Mr. Alexander M. Chance and his son (Mr. A. Macomb Chance). Mr. Alexander M. Chance has been the managing director. Mr. Edwin Hunt and his nephew (Mr. Edward J. Hunt) have had the complete management of the Wednesbury works.

MESSRS. FORBES, ABBOTT, & LENNARD, LTD.—This firm advises us that their arrangement with Mr. C. Dasnières terminated on December 31st, from which date he has ceased to be in their employ.

THE NEW UNITED STATES PATENT LAW.—The new United States patent law, which is similar in its provisions to that of the United Kingdom, became effective on the first of this month. Being less favourable to foreign patentees than the former law, there has latterly been an enormous rush of foreign applicants to secure protection in this country for their inventions before the more stringent conditions came into operation. The result is that the Patent Office is almost congested, the officials being quite unable to keep pace with the work.

THE TALLOW MARKET.—The improvement in the tallow market which set in early in November becomes more accentuated as the demand both on home and Continental account is increasing. This is partly due to the shorter supply of home melt and the reduced exports from Australasia. Since the beginning of November prices have risen from 1s. 6d. to 2s. per cwt. for nearly all descriptions. Importers were very firm in their ideas at the public sales this week, and some of the lots which did not sell under the hammer changed hands privately at a further improvement. At the beginning of November the stocks were returned as 34,500 casks, as against 51,000 casks in 1896, and by the end of the year a further reduction took place. The total quantity shipped from the colonies in October was 3,943 tons, whereas the total in November was only 1,356 tons, as compared with 2,696 tons in the corresponding period of 1896. The outlook is regarded as very favourable, and a further improvement is anticipated before very long.

SALFORD TAR CONTRACTS.—At the last meeting of the Salford Town Council, in replying to questions by Mr. Ald. Snape, Mr. Phillips, chairman of the Gas Committee, defended the committee's present method of selling according to a sliding scale, regulated by the market price, the tar produced at the gasworks. He stated that the financial results were now much more satisfactory than when the tar was sold in the open market.

THE GERMAN CHEMICAL INDUSTRY.—At the annual conference of the German Society for the Protection of the Interests of Chemical Industry, at Baden-Baden, the president, Dr. Holtz, stated that in 1896 the output of chemical products increased by 8·7 per cent. ; the average number of workmen employed by 5·2 per cent., and the total amount paid in wages from 103,400,000 to 113,700,000 marks, or from 894 to 907 marks per head. The exports increased by 6·5 per cent. in value and by 13 per cent. in quantity. As a consequence of the general fall in prices, there was a reduction in the average net profits (as shown in the reports of the principal chemical companies) from 12·71 to 12·3 per cent.

CHESHIRE SALT TRADE.—The returns for December show an extraordinary falling off in the shipments when compared with the same month of 1896. The quantity of white salt loaded at Liverpool was 31,070 tons, at Runcorn and Ship Canal 1,937 tons, and at Weston Point 808 tons ; total, 33,815. The shipments of rock salt from the respective ports were :—3,498, 1,167, and 250 ; total, 4,915 tons. These statistics show that there had been a decrease of 25,298 tons loaded at Liverpool when compared with the same period of last year, and increases of 261 tons at Runcorn and Ship Canal, and 651 tons at Weston Point. The American shipment had been smaller considerably, whilst the East Indian shipments were nearly 20,000 tons less. These two markets thus almost account for the decrease. The shipment for 1897 of white salt amounted to 569,710 tons, against 546,765 in 1897, or a decrease of 22,945 tons for the year. The quantity of rock salt sent away in 1896 was 50,661, compared with 43,665 in 1897, thus showing a decrease of 6,996 tons. The American tariff chiefly accounts for the depression in this branch of commerce.

THE RESIN MARKET.—There has been only a slight variation in the price of resin during the past month. The demand for common strained has been small. The statistics show reduced receipts at Wilmington and an enormous falling off in exports, with the stock there more than double that existing last year at the corresponding date. The statistics relating to "pales" and "mediums," on the other hand, show reduced receipts, increased exports, and a greatly reduced stock. Some large orders have been placed at present prices for the United Kingdom and the Continent, and a much firmer tone for these grades has been developed. Speculative offers of new crop usually made at the beginning of the year, however, may tend to keep prices from rising. In the London market the arrival of cargoes has caused a decline in "spot" prices, and business has been very quiet during the past month. More activity is consequently looked for this month. The stock of all grades in London at public wharves was 7,799 barrels on December 31st, as against, 6,458 barrels at the corresponding date in 1896. In Liverpool, a fair trade "to arrive" and on the spot has been done at very low prices, and buyers are now for the most part fully supplied with stock and well bought forward. There is only a moderate demand, but the market is rather firmer.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are dull in the extreme, with 90's at 1s. 5½d. and 50/90's. 1s. 8d. Crude carbolic is unchanged, while crystals are firm at 7¼d. ; liquid steady at 1s. Naphthas are weak, with crude at 9d., but solvent keeps steady so far at 1s. 8d. Pitch is dull at 18s. 6d. to 19s. Creosote is moving well, and anthracene is rather firmer in price and position.

Sulphate of ammonia continues on the advance. The demand keeps strong both for prompt and forward delivery. Beckton quotation for Jan./April is now £9. 7s. 6d. The closing prompt values at the ports are :—London outside makes, £9. 6s. 3d. ; Liverpool, £9. 5s. Hull £9. 5s., and Leith £9. 5s. Nitrate of soda, 7s. 6d. to 7s. 9d. per cwt., according to quality.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business is active for the principal products, and prices, generally, are in buyers' favour. Bleaching powder in fair request for export at £5. 15s. to £6. 5s. f.o.b., and for home trade £5. 10s. f.o.r. makers' works, with lower price for forward contracts. Chlorates still have a weaker tendency. Caustic soda is unaltered at recent quotations, viz. :—F.o.b. Liverpool, 77%, £8. 5s. ; 74%, £8. ; 70%, £7. 2s. 6d. ; 60%, £6. 5s., nett, 10-ton lots. For forward deliveries lower prices are taken. Alkali, 58%, is maintained at the advance of £4. to £4. 2s. 6d. f.o.r. makers' works. Soda crystals and bicarbonate are unchanged. White powdered arsenic firm at £2. 5s. for best brands. Sulphate of copper slightly higher at £15. 17s. 6d., f.o.b. Bichromates are lower. Potash, caustic and carbonate, have a firmer tendency. Aniline oil and salt are offering at considerable reductions for forward delivery. Carbolic acid crystals firm. Brown acetate of lime is maintained at £5. 15s. to £6, c.i.f. ; grey, £7. 10s. to £8. Acetic acids have rather a higher tendency ; also acetate of soda. Other acetates quiet. Yellow prussiate of potash and soda are steady at recent advances, viz. : 6¾ and 5½ per lb. respectively. Cyanide 98%, 1s. 2d. per lb. Sulphate of iron in better request. Zinc salts dearer. Reports, generally, indicate a better movement and more business doing in manufacturing centres.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron dull : Scotch warrants closed at 45s. 6½d. ; Middlesbro', 40s. 4d. cash ; and hematite, 48s. 4d. Copper steady : Chili bars, G.O.B.'s and G.M.B.'s, closed at £48. 8s. 9d. to £48. 13s. 9d. cash, and £48. 17s. 6d. to £49. 2s. 6d. three months. Tin steady : Straits closed at £62. 13s. 9d. to £63. 3s. 9d. cash, and £63. 6s. 3d. to £63. 16s. 3d. three months ; Australian, £63. 15s. ; English ingots, £66. to £66. 5s. Lead dull : Spanish, £12. 7s. 6d. to £12 8s. 9d. ; English, £12. 10s. to £12. 12s. 6d. ; Silesian spelter, ordinary, £17. 17s. 6d. to £18. 1s. 3d. Nickel, 1s. 2½d. Antimony, £30. 10s. Quicksilver : First hands, £6. 17s. 6d. ; second hands, £6. 17s. *Copper shares* quiet : Cape, 4¼ to 4⅜ ; Copiapo, 1⅞ to 2⅛ ; Libiola, 2¼ to 2⅜ ; Mason and Barry, 2⅞ to 3⅛ ; Rio Tinto, 25 7/16 to 25 9/16 ; Tharsis, 6½ to 6¾.

GLASGOW, TUESDAY.—Market steady, and a small business. Scotch done at 45s. 3½d. to 45s. 4d. cash, and 45s. 6½d. one month ; buyers, 45s. 4d. cash ; sellers, ½d. more. Cleveland buyers, 40s. 3d. cash ; sellers, ½d. more. Cumberland, buyers, 48s. 2d. cash ; sellers, ½d. dearer. Middlesbrough hematite, buyers, 48s. 10½d. cash ; sellers, 49s. 2d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is steady and moving well. Lagos has been sold at £21. 10s. ex-quay, and £21. 15s. transit. Olive is moving quietly at the old quotations. Linseed firm at 16s. to 16s. 6d. cwt. for Liverpool makes in export casks. Cottonseed is dull, though Liverpool refined is still held for 14s. 6d. to 15s. 3d. cwt. Holders of castor oil are firm at 3 5/16d. to 3⅜d. per lb. for good seconds Calcutta and first pressure French. Resin has opened the year quietly, but so far holders are not disposed to reduce prices at all. Tallow quiet and unchanged in price. Spirits of turpentine are dull at 24s 3d. to 24s. 6d. cwt. Petroleum unchanged ; American 5¾d. to 7d., and Russian refined 4¾d. to 5d. per gallon.

CAKES.—There is a steady feeling in the market for American Western linseed on the spot, but only moderate sales were effected to-day at market at previous prices, viz., £7. 3s. 9d. to £7. 7s. 6d., whilst Liverpool makes again had a very fair sale at fully recent currencies, viz., £8. 5s. to £8. 10s. per ton, according to brand. Good to choice brands of American decorticated cottonseed rule slow, but the quotation is nominally without alteration from last market day, holders still quoting £5. 7s. 6d. to £5. 17s. 6d., according to quality, with a moderate consumptive business doing in Liverpool makes at £6. 5s. to £6. 15s. per ton. Undecorticated Liverpool makes are fairly active, but the quotation is just the turn in buyers' favour again to-day at £3. 18s. 9d. to £4. 10s., according to brand Spot parcels of Egyptian are still quotedat £4. per ton, but there is an easier tone ruling in the market, with only a small trade doing.

COLOURS.—Prices are steady, and practically without change. Ochres : Oxfordshire—common £10., medium £12., best £15. ; Derbyshire—common 40s., medium 50s , best 60s. ; Welsh—best 90s., seconds 50s., and common 18s. ; Irish, Devonshire, 40s. to 45s. ; French, J.C., 65s. Umber : 40s. to 45s. White lead : £16. Red lead unchanged. Venetian red : £6. to £10. Cobalt : Prepared oxide, 9s. 9d. ; black, 9s. ; blue, 6s. Oxide of iron : Common, £7. ; medium, £10. ; finest, £20. Zinc oxide : £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—It is yet premature to expect any decided change of the year to have had any actual influence upon market values. The tonnage of the port of Hull for the last year has been 3 516,020 tons against the previous year of 3,471,849 tons, being an increase of 44,171 tons. The stocks of seed in Hull for month ending December 31st were : 29,531 qrs., Linseed, against 17,605 qrs., November 30th ; rapeseed, 7,901 qrs. against 1,601 qrs. ; cottonseed, 1,318 tons against 1,180 tons. The imports for the month have been :—Linseed, 100,184 qrs., against 94,104 qrs. ; rapeseed, 13,091 qrs. against 22,396 qrs. ; cottonseed, 27,592 tons against 22,359 tons. Linseed oil has advanced during to-day about 7s. 6d. per ton, and is better, the present price being 14s. 3d. naked spot ; January-April 14s. 7½d. ; May-Aug. 14s. 3d. Refined and boiled, £1. to £1. 10s. per ton extra. Refined cotton oil is not such a good market, consequently values are easier. Business has been done at 12s. 3d., whereat there are further buyers : January-April 12s. 6d. ; May-August 13s. 1½d., naked ; casks £1. and ordinary barrels £1. 10s. extra ; filtered qualities about £1. extra. Resin on the spot is quoted from 4s. 9d. to 5s. for common grades, up to 7s. 6d. for the finest. Olive oil is unchanged. Olive oil soap (Italian) from £16. per ton. Oleines from £16. to £18. per ton. Cod oil 15s. 6d. to 18s , no barrels. Arachide nut oil, £28. per ton. Castor oil unchanged. Turpentine up to 24s. 9d.

CAKES.—The market is a better one, and prices are ruling firmer. Linseed cakes firmer, 95% spot, £7. 17s. 6d. to £8. 2s 6d. Russians, £7. 7s. 6d. to £7. 12s. 6d. ; Americans, £7. 7s. 6d. to £7. 10s. Cotton cakes, also firm ; best makes, £4. to £4. 1s. 3d. ; seconds, £3. 17s. 6d. to £3. 18s. 9d. Rape cakes, Black Sea, £4. 2s. 6d. per ton.

PAINTS.—Prices are : White and red leads unchanged. Venetian red, dry, £4. per ton. Ochres from £3. 5s. Ordinary colours in oil from £9. per ton. Anti corrosive paints from 20s. Paint remover, 25s. Black varnish, £5. 10s in barrels. Patent dryers from 12s. per cwt. Oak varnish from 5s. per gallon.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

City business offices have barely resumed after the holidays, and the works are all still closed, so that the supply of light and leading for the moment is reduced to a minimum. Sulphate of ammonia is left at last week's price, and it is probable that resumption of dealing within the next day or two will show the article still in fair keeping, although the opening out of a new month generally exercises an easing tendency. In general chemicals, where there is any movement at all, the change is towards the buyer. Sulphate of copper, saltcake, and caustic soda are all slightly cheaper. Sulphur and soda ash are still reported scarce. The position in mineral oils and paraffins is unchanged—only, a small crude oil and sulphate of ammonia works, which balances towards the end of the year, has just announced a 7½ per cent. dividend against 20 per cent. of past few years, thus further showing the lowering tendency of the industry.

Chief prices current are :--Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 5s. to £4. 15s. nett, Tyne ; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne ; alum in lump, £4. 17s. 6d. to £5. 7s. 6d. nett, Glasgow ; caustic soda, white, 74° £8. 0s. od., 70/72° £7. 5s. od., 60/62° £6. 5s. od., cream 60/62° £6. all nett, Liverpool ; bleaching powder, 35/37°, £6. 5s. nett, Tyne ; saltcake, 18s. to 19s. ; borax, English, refined, £13. 10s., and boracic acid, £25. nett, Glasgow ; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool ; bichromate of potash, 4d. nett, for Scotch and English deliveries (for export, 3¾d. nett, f.o.b. Glasgow) ; bichromate of soda, 3¼d. nett, for Scotch and English deliveries (for export, 3d. nett, f.o.b Glasgow) ; chlorate of potash, 3⅝d. less 5%, any port ; nitrate of soda, 7s. 6d. to 7s. 9d. ; sulphate of ammonia, £9. 2s. 6d., prompt, f.o.b. Leith ; salammoniac, first and second white, £33. and £31. nett any port ; sulphate of copper, £15. 15s. to £16., less 5% Liverpool ; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb. ; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb. ; paraffin spirit (naphtha), 6½d. to 7d. per gallon ; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower) ; ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were *nil*.

TYNE CHEMICAL REPORT.

TUESDAY.

Business has been fairly good on the Tyne during the past year, and since the slight difference with some of the men in the early part of the year, the works have been well and regularly employed and the quantities exported are fairly up to the average.

Prices generally have not changed to a very large extent, though bleaching powder has latterly fallen in value owing to keen competition by electrolytic makers, home and abroad. This has been somewhat compensated for by the advance in soda crystals and other soda products. It is yet to be seen whether electricity can displace chemistry in the production of bleaching powder and caustic soda. The balance sheets of the new companies will be anticipated with interest by many. To-day's quotations are:—

Bleaching powder, softs, £6. per ton, nett; hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s., per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do., 90/95% crude calcined, £6. per ton nett; sulphide of barium, crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is being freely exported and prices keep very steady at 9s. to 9s. 6d. per ton, f.o b. Tees.

COALS.—Trade throughout the past year has been very brisk, and a large proportion of the collieries have been kept working full time, while fortunately, no serious disturbance in the way of strikes has occurred. Prices generally have been well maintained and it is satisfactory to note a marked increase in the total exports from the Tyne as compared with 1896. The outlook for 1898 is fairly good, an abundance of tonnage being booked, and at present there is an excellent demand for all classes of coal. Prices to-day are as follows:—Best Northumbrian steam, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 8s. 3d. to 8s. 6d. per ton; bunker coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s. per ton; coke, according to quality, 17s. 6d. to 21s. per ton.

New Companies.

Abingdon Acetylene Illuminating Co., Ltd.—CAPITAL £2,000. in £1. shares. This company has been formed with objects as fully indicated by the title. Registered without articles of association by A. F. Biddle, Kenmore, Moseley, Birmingham.

East India Distilleries and Sugar Factories, Ltd—CAPITAL £250,000. in £1. shares (150,000 pref). This company has been formed to acquire and carry on the business of distillers, sugar manufacturers and refiners, carried on by Parry & Co., at their factories at Nellecoopum and Trivanellore, and by the Commercial Bank of India, Ltd., at their Arcott Distilleries and Sugar Works at Ranipettai and Salem, and to adopt a certain agreement. The subscribers to the memorandum of association are:—J. H. Tod, 10, Courtfield Gardens, S.W., gentleman; E. S. Ormerod, 18, Ropemaker-street, E.C., distiller; H. Pritchard, Eaglesfield, Camberley, Surrey, collector; W. S. Shaw, 70, Gracechurch-street, E.C., merchant; E. F. Stranach, 12, King William-street, E.C., banker; J. R. Murray, 70, Gracechurch-street, E.C., merchant; H. A. Herbert, 27, Charlesville-road, W. Kensington, banker. Registered office, 70, Gracechurch-st., E.C.

Imperial Portland Cement Co., Ltd.—CAPITAL £60,000. in 45,000 pref. ordinary and 15,000 deferred ordinary shares of £1. each. This company has been formed to adopt an agreement with the British White Lead Co., Ltd., and to carry on the business of cement manufacturers and merchants, lime burners, brick and tile manufacturers and dealers, etc. The subscribers to the memorandum of association are:—J. Stevens, 11, Burch-road, Rosherville, Kent, copper agent; S. Cartwright, 14, Victoria Villas, Kilburn, chartered accountant; A. J. Bickmore, 36, Shaftesbury-road, Hornsey Rise, N., secretary; R. C. Hatch, 22, Duke-street, St. James, S.W., clerk; H. J. Bright, Westbourne House, Brentwood, clerk; F. Bathurst, 4, Limes Villas, West Hill-road, S.W., clerk; W. A. C. Stuttell, Mobberley, Surbiton, gentleman. Registered by Hays & Co., 31, Abchurch-lane, E.C.

Natural Epsom Salts Syndicate, Ltd.—CAPITAL £50,000. in £1. shares. This company has been formed to acquire a certain saline lake or lagoon, known as "La Mina Fortuna," situate at La Higuera, near Carral Rubino, in the province of Albaceta, Spain, to adopt an undescribed agreement, and to work, win, get, evaporate, refine, or otherwise treat sulphate of magnesia (Epsom salts), and other salts and chemical products. The subscribers to the memorandum of association are:—A. Dempster, Eden Hall, Penmaenmawr, N.W., civil engineer; J. Boydell, Cowley Hill, St. Helens, merchant; W. Skinner, 317, Abbey Hey Lane, Gorton, Lancashire, clerk; F. Summers, 76, Heywood-street, Moss Side, Lancashire, engineer; J. H. Boydell, Dinglehurst, Hale, Cheshire, merchant; J. W. Saynor, Croydon-terrace, Bury, valuer; A. Haworth, Hullard Hall, Old Trafford, Lancashire, merchant. Registered office, 5, Victoria Buildings, Manchester.

Taurine Manufacturing Co., Ltd.—CAPITAL £12,000. in £1. shares. This company has been formed to acquire the business carried on as "The Taurine Manufacturing Co.," at the Cap Factory, Blind Lane, Palmer's Green, N., to adopt an agreement with R. Larchin, and to manufacture, sell, and deal in fat, margarine, oils, soaps, etc. The subscribers to the memorandum of association are:—J. W. Burrows, 46, Chesholm-road, Stoke Newington, accountant; J. Prosser, 28, Drayton Park, Highbury, gentleman; A. J. Keogh, 37, Somerford Grove, Tottenham, accountant; T. A. Clark, 22, Aldred Park, Kennington Park, S.E., cashier; R. H. Purver, 24, Alconbury road, Upper Clapton, clerk; W. J. Lyne, 25, Highbury Terrace, Highbury, N., accountant; A. W. H. Little, 22, Navarino-road, Hackney, printer. Registered office, 3 and 4, Crooked Lane, Cannon-street, E.C.

North Borneo Ramie Fibre Co., Ltd.—CAPITAL £15,000. in £1. shares. This company has been formed to purchase and acquire from Malcolm C. Thompson, of 25, Hope-street, Glasgow, a concession of 5,000 acres of waste land in B. N. Borneo, for the cultivation of Rhea or Ramie and other fibrous plants. The subscribers to the memorandum of association are:—M. Thompson, 25, Hope-street, Glasgow, merchant; A. McRay, 25, Hope-street, Glasgow, cashier; M. B. Thomson, 25, Hope-street, Glasgow, manufacturer; W. Thomson, 25, Hope-street, Glasgow, clerk; W. Carswell, 25, Hope-street, Glasgow, manager; J. Murray, 82, W. Regent-street, Glasgow, chartered accountant; A. Mitchell, 82, W. Regent-street, Glasgow, chartered accountant. Registered office, 82, W. Regent-st., Glasgow.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending December 25th.

Acetic Acid—

Holland,	70 cks.	F. J. Putz & Co.
,,	177	R. W. Greeff & Co.
France,	1	White Brs.
Holland,	6 cs	A. & M. Zimmermann

Acetone—

Germany,	25 drs	Matthews & Luff

Alum—

Holland,	588 pks.	Ohlenschlager Brs.

Alumina Sulphate—

Germany,	75 cks.	R. W. Greeff & Co.
,,	94	H. Walbaum & Co

Anthracene—

Belgium,	100 cks	Burt, Boulton & Co

Antimony Ore—

Turkey,	100 t.	J. Bamber

Arsenic—

Melbourne,	115 cks.	G. H. Adams & Co.
Portugal	19 cks.	Coverley & Westray

Barytes—

Holland,	200 bgs.	D. Harrison & Co.
,,	202 pks.	W. Harrison & Co.
Belgium,	205 bgs.	J. L. Lyon & Co

Bromide of Iron—

Germany,	10 cks.	A. & M. Zimmermann

Caoutchouc—

Germany,	130 c.	Prop. Bull Wf.
E. Indies,	1	R. Warner & Co.
Sydney,	20	A. Gibbs & Sons
Portugal,	2.0	Hoare, Wilson & Co.

Carbolic Acid—

Germany,	100 cks.	J. G. Back
,,	50	Blagden, Waugh & Co.

Castor Oil—

Italy,	10 cs.	A. & M. Zimmermann

Chemicals (*otherwise undescribed*)

Germany,	£372	T. H. Lee
,,	108	L. & I. D. Jt. Co.
,,	265	Elkan & Co.
,,	15	Deering & Robottom
France,	76	Mory & Co.
Germany,	600	H. Lambert
Belgium,	42	John Cockerill Line
,,	324	T. Palmer
Italy,	12	Hughes, Chemery & Co.
France,	15	Petri Brs.
Holland,	16	T. H. Lee
Germany,	1,850	A. & M. Zimmermann
Belgium,	30	T. H. Lee

Citrate of Lime—

Italy,	22 cks.	B. Jacob & Sons

Cream of Tartar—

Holland,	5 cks.	B. & F. Wf. Co.
France,	10	C. Atkins & Nisbet
Portugal,	5	B. & F. Wf. Co.

Dyestuffs—

Alizarine

Holland,	9 brls.	G. Kahn & Co.

Aniline

Belgium,	14 pks.	W. Gerson & Co.

Argois

Italy,	19 cks.	Thames S. T. & L. Co., Ld.

Cochineal

Canaries,	20 bgs.	J. T. Rennie, Son, & Co.
,,	35	G. S. Bruce
,,	5	Lewis & Peat
,,	14	Hendrey & Martin
,,	20	L. & I. D. Jt. Co.
,,	57	W. M. Smith & Sons

Extracts

U. States,	25 cs.	Rosenberg, Lucwe & Co.
Germany,	5 cks.	T. H. Lee
Sweden,	2	M. D. Co.
U. States,	100 bxs.	Skilbeck Brs

Gambier

China,	530 bls.	Bellamy's Wf. Ld.

Indigo

E. Indies,	52 chts.	Parry & Co.
,,	8	Parsons & Keith
,,	9	Binny & Co.

Saffron

Melbourne,	1 cs.	L. & I. D. Jt. C

Shumac

Italy,	500 pks.	C. S. Lovell
,,	692	Bailey & Leetham, Ld.
,,	168	R. Waters
,,	25 bgs.	T. S. Harris & Co.

Tanners' Bark
Natal, 7 t. A. & W. Nesbitt
Belgium, 15 Leach & Co.
Holland, 15 Little & Johnston
N. Zealand, 12 Van der Meden & Co.

Glucose—
U. States, 525 pks. 575 c. G. Clark & Son
" 25 156 L. & T. C. & D. Co.
" 125 687 Ohlenschlager Brs.
" 200 200 Fellows, Morton, & Co.
" 100 600 C. F. Webster & Co.
" 149 795 R. G. Hall & Co.
Germany, 100 100 Trier, Meyer & Co.

Glue—
Holland, £36 G. Rahn & Co.
Belgium, 25 T. H. Lee
" 458 J. Barber & Co.
France, 11 Mery & Co.
Holland, 25 W. H. Carey & Sons
Germany, 180 L. & I. D. Jt. Co.
" 28 T. H. Lee
Austria, 25 M. D. Co.

Gypsum—
Germany, 30 t. Phillipps & Graves

Lactic Acid—
U. States, 10 cks. Furness, Withy, & Co.

Lamp Black—
U. States, 140 pks. L. & I. D. Jt. Co.

Lead Acetate—
Germany, 17 cks. Beresford & Co.

Litharge—
Germany, 32 cks. Petri Brs.

Manure—
France, 5 t. Burnett Brs. & Sons
Germany, 128 F. W. Berk & Co., Ltd.

Methyl Alcohol—
Germany, 8 dms. T. Jones & Co.
" 14 Tingle, Jacobs, & Co.
France, 20 cks. R. D. Lyon

Mica—
Germany, £10 T. H. Lee
E. Indies, 360 W. M. Smith & Sons
U. States, 63 Knight & Morris

Molasses—
B.W.I., 167 hgs. 370 c. C. M. & C. Woodhouse
U. States, 200 1,200 C. S. Anderson

Ochre—
Holland, 3 pks. 1 ck. Phillipps & Graves
U. States, 75 brls. Page, Son, & East
Italy, 25 cks. Hemingway & Co.

Phosphate Rock—
France, 190 t. West & Penrose
Algeria, 700 Anglo-Contl. Guano Works
France, 200 J. Harrison
" 215 A. Hunter & Co

Plumbago—
Belgium, 50 bgs. Brit. Anti-Fouling Co.
Ceylon, 223 cks. L. & I. D. Jt. Co.
U. States, 10 Lunham & Moore
Germany, 64 B. Gallaway
Ceylon, 867 J. Thredder, Son, & Co.
" 112 G. R. Haller
Italy, 62 J. Thredder, Son, & Co.

Potash—
U. States, 52 c. S. Ward & Co.

Potassium Carbonate—
Germany, 380 c. J. M. Steel & Co.
" 100 R. W. Greeff & Co.
France, 24 J. A. Reid
Holland, 100 Petri Brs.

Potassium Sulphate—
Germany, 100 bgs. A. Zumbeck & Co.

Pumice Stone—
Austria, 4 t. Mwll Dk. Co.
Italy, 6 Union L. Co., Ltd.
" 16 F. Claydon & Co.
" 7 Taylor Brs.
" 18 Acton & Barman

Quicksilver—
U.S.A., 100 flsks. H. Bath & Sons

Rosin—
U. States, 2,253 brls. T. Nickels & Co.

Rosin Oil—
Germany, 4 brls. H. Hunt

Saltpetre—
Germany, 12 cks. L. & I. D. Jt. Co.
" 70 S. E. Railway Co.
E. Indies, 636 bgs. Perkins & Homer

Soda—
Holland, 400 c. S. Devon Wf. Co.
Belgium, 24 Sawer, Sons, & Co.
" 300 C. Lamb & Co.
" 1,000 Domeier & Co.

Sodium Hyposulphite—
Germany, £45 Petri Brs.

Starch—
Germany, 970 cs. Horne & Co.
Belgium, 175 T. H. Lee
Holland, 430 bxs. Little & Johnston
U. States, 100 bgs. R. G. Hall & Co.
France, 5 cs. L. & I. D. Jt Co.
Holland, 80 G. Rahn & Co
" 15 Phillipps & Graves
Belgium, 80 Taylor Brs.
U. States, 200 bgs. W. G. Taylor & Co.
Belgium, 40 cs. Leach & Co.

Stearine—
Belgium, 5 pks. John Cockerill Line
Germany, 1 ck. T. H. Lee
France, 100 bgs. H. Hill & Sons

Sulphur—
Italy, 43 t. Bailey & Leetham
" 50 G. Boor & Co.
" 25 R. Waters
" 9 J. T. Morton

Talc—
France, £40 Blackwell & Co.

Tartaric Acid—
Holland, 24 cks. Kirkpatrick & Co
" 11 B. & F. Wf. Co.
Italy, 20 "

Tartars—
Italy, 11 cks. Fellows, Morton, & Co
" 3 Howards & Son
" 89 B. Jacob & Sons

Ultramarine—
Holland, 90 pks. G. Rahn & Co.
Germany, 24 cks. T. Hamilton & Co
Holland, 1 J. Barber & Co.
Germany, 10 cs. Steinhoff, Sons, & Co.
" 3 cks. Phillipps & Graves

Varnish—
U. States 16 pks Taylor Brs.
Germany, 4 T. H. Lee
France, 3 Mery & Co

White Lead—
Germany, 47 cks. D. Storer & Sons
Belgium, 100 W. Hampton
France, 18 Perkins & Homer
" 18 J. Wate & Son
Holland, 18 Perkins & Homer
" 20 Burrell & Co.
Belgium, 4 J. L. Lyon & Co.
Germany, 20 H. Lambert

Wood Pulp—
Sweden, 1,432 bls. Hummel & Co
U. States, 680 1,954 pks. Henderson Craig & Co
Sweden, 272 pks. C. S. Lovell
Holland, 1,720 E. J. & W. Goldsmith
Portugal, 600 Caima Wood Pulp Co.
Holland, 51 Vokins & Co.
Sweden, 238 J. W. Cook & Co., Ld.
" 240 Christopherson & Co
Germany, 57 Hernu, Peron, & Co
Sweden, 254 Raby & Mather
" 280 500 bls Alsing & Co.
" 2,576 W. D. Cork
Germany, 505 Tough & Henderson

Zinc Oxide—
Germany, 44 cks. R. W. Greeff & Co.
Holland, 100 Burrell & Co.
Germany, 1,000 Soundy & Sons
" 60 M. Ashby, Ltd.

Zinc Sulphate—
Germany, 32 F. Smith

LIVERPOOL.

Week ending December 23rd.

Acetate of Lime—
New York, 936 bgs.

Acetic Acid—
Rotterdam, 28 balloons

Alum—
Rotterdam, 10 bgs.

Alum Cake—
Rotterdam, 77 cks.

Aluminium—
New York, 33 bxs. T. Ashbury

Antimony—
Hamburg, 1 cs.

Antipyrine—
Rotterdam, 1 bx.

Arsenic—
Hamburg, 10 kgs.

Barytes—
Rotterdam, 65 cks. 27 bgs. 24 sks.
Antwerp, 65

Bone Ash—
Campana, 664 bgs.

Bone Black—
Rotterdam, 3 cks.
Philadelphia, 30 brls.

Bone Meal—
Bombay, 1,000 bgs.

Borax—
Mollendo. 641 bgs.

Caoutchouc—
Havre, 7 pks. Cunard S. S. Co., Ld.

Castor Oil—
Marseilles, 18 brls. J. J. Mack & Son
" 446 60 cs.

Chemicals *(otherwise undescribed)*
Hamburg, qty. H. Tyrer & Co.
Rotterdam, 4 cs.

Citric Acid—
Bordeaux, 10 kgs.

Colours—
Dunkirk, 1 cs. 6 tubs
Rotterdam, 1 ck.
Antwerp, 12 J. T. Fletcher & Co.
" 2

Cottonseed Oil—
N. Orleans, 500 brls.

Cream of Tartar—
Barcelona, 2 cks. G. H. Fletcher & Co.
" 5 tubs Sachse & Klemm
Bordeaux, 57 cks.
Oporto, 3

Dyestuffs—
Cochineal
Gd. Canary, 20 bgs. K. Kullmann & Co

Extracts
Hamburg, 18 cks.

Fustic
Kingston, 270 ps. 438 roots
Tampico, 4,226
" 5,766 H. Wedemeyer & Co.

Indigo
Akassa, 1 cs. Royal Niger Co Ld.

Logwood
Belize, 163 t. 10 c. E. Chaloner & Co.

Myrabolams
Bombay, 1,792 bgs. E. W. Sassoon & Co.
Antwerp. 1 pk.

Saffron
Valencia, 1 cs.

Shumac
Palermo, 100 bls.

Farina—
Hamburg, 3,600 bgs. H. Tyrer & Co.

Glucose—
New York, 100 brls.
Baltimore, 550

Glue—
Dunkirk. 107 bgs. 4 cks. 2 cs.
Rotterdam, 133 1 bl. 2

Infusorial Earth—
Hamburg, 91 bgs.

Iron Sulphide—
Boston, 35 kgs. Hodgson & Simpson

Lactic Acid—
Boston, 12 brls. 8 kgs.

Limestone—
Antwerp, 1 crt. J. T. Fletcher & Co.
"

Manganese Ore—
Bordeaux, qty.
Vizagapatam, 1,300 t. Darwen & Mostyn Iron Co.

Mica—
New York, 20 brls.

Mineral White—
Bordeaux, 100 bgs. Geo. G. Blackwell, Son & Co.

Molasses—
N. Orleans, 1,000 brls. F. W. Simmonds

Ochre—
Marseilles, 141 brls.
Rouen, 65 cks Co-op. W'sale Society, Ld.
Alicante, 300 sks. 10 brls.

Paint—
Constantinople, 2 tins D. Macpherson
Boston, 1 kg. Pearson, Benson & Co.

Paraffin Scale—
New York, 8,999 brls. Thompson & Bedford
Baltimore, 100

Paraffin Wax—
Baltimore, 100 brls.

Phosphate Rock—
Brunswick, Ga., 1,000 t.

Pitch—
Marseilles, 219 brls.

Plumbago—
Genoa, 100 bgs.

Potash—
Hamburg, 22 cks.
Rouen, 59 Co-op. W'sale Society, Ld.
Dunkirk, 22 dms.
Hamburg, 610 bgs. H. Tyrer & Co.

Potassium Carbonate—
Hamburg, 2 brls.

Potassium Chloride—
Rouen, 500 cks. R. J. Francis & Co.
Gothenburg, 20 kgs.

Pyrites—
Huelva, 2,790 t. Matheson & Co.

Saltpetre—
Hamburg, 175 kgs. 13 cks. 1 brl.

Soap—
Boston, 1 ck. N. A. Rumpf
" 2 brls. J. S. Stocks & Co.
Newport News, 460 100 bxs.
Marseilles, 1 cs. M. Bell
" 172 96 dms.

Soapstone—
Bordeaux, 450 bgs. Geo. G. Blackwell, Sons & Co.

Soda—
Rotterdam, 8 cks.

Sodium Nitrate—
Iquique, 7,216 bgs.

Sodium Silicate—
Rotterdam, 1 ck.

Starch—
Rotterdam 427 cs.
Baltimore, 200 bgs. 100 sks
Hamburg, 30 cs.

Stearine—
Rouen, 13 bgs. Co-op W'sale Society Ld.
Antwerp, 13

Tallow—
New York, 30 hds.
Boston, 40 J. S. Stocks & Co.
Baltimore, 110 trcs.
Boston, 650 300 brls.
Campana, 330 cks.
Portland, M., 1,817 tcs.
Philadelphia, 300 G. E. Chase

Tartaric Acid—
Dunkirk, 2 cks.
Rotterdam, 9
Marseilles, 22

Tin Ashes—
Gothenburg, 4 cs. Langstaff & Co.

Treacle—
New York, 300 brls.
Gothenburg, 40 tcs.
Philadelphia, 663 brls.

Ultramarine—
Hamburg, 15 cs.
Rotterdam, 27 cks.

Varnish—
New York, 30 brls. 1 cs. W. A. Warren
Dunkirk, 2 cks.

Verdigris—
Marseilles, 3 brls. M. Bell
" 12

Waste Salt—
Hamburg, 2,617 bgs.
" 130 cks. H. Tyrer & Co.

White Lead—
Rotterdam, 164 cks.
Antwerp, 1 ck. J. T. Fletcher & Co
" 12

Wolfram Ore—
Oporto, 24 bgs.

Wood Pulp—
Rotterdam, 304 bdls. 153 bls.
New York, 200 Christie & Co.
Boston, 700 rolls Thim & Sinclair

Gothenburg, 20 bls. G. F. Green & Co.
" 34
Antwerp, 250
Boston, 318 rolls
Oporto, 200
Gothenburg, 3,091 Becker & Co.

Zinc Oxide—
Marseilles, 2 brls.
Rotterdam, 40 cks.
New York, 100
Antwerp, 20

Zinc White—
Rotterdam, 10 cks.

MANCHESTER.

Week ending December 25th.

Alizarine—
Rotterdam, 30 cks. 3 bxs. 35 brls. Wilson, Son, & Co.

Alizarine Colours—
Rotterdam, 11 cks. 2 cs. Wilson, Son, & Co.

Alumina—
Hamburg, 1 ck.

Ammonium Acetate—
Rotterdam, 2 brls. Wilson, Son, & Co.

Ammonium Chloride—
Rotterdam, 4 cs. Wilson, Son, & Co.

Aniline Colours—
Rotterdam, 39 brls. 5 bxs. Wilson, Son, & Co.

Antimony Bifluoride—
Hamburg, 4 cks.

Antimony Salts—
Hamburg, 2 cks.

Barytes—
Rotterdam, 200 bgs. Wilson, Son, & Co.
Antwerp, 260

Chrome Alum—
Rotterdam, 2 brls. Wilson, Son, & Co.

Colours—
Ghent, 1 cs.
Rotterdam, 29 cks. 5 bxs. 14 Wilson, Son, & Co.
Boulogne, 47 2
Hamburg, 2
Antwerp, 9

Farina—
Stettin, 600 bgs Stott, Coker, & Co.
Rotterdam, 900 Wilson, Son, & Co.

Glue—
Antwerp, 20 bls.
Rotterdam, 7 Wilson, Son, & Co.

Indigo—
Rotterdam, 6 chts. 4 brls. Wilson, Son, & Co.

Limestone—
Antwerp, 6 crts.
Ghent, 2 cs.

Litharge—
Rotterdam, 59 cks. Wilson, Son, & Co.

Lithopone—
Rotterdam, 1 ck. Wilson, Son, & Co.

Oxalic Acid—
Stettin, 24 cks. Stott, Coker, & Co.
Rotterdam, 30 Wilson, Son, & Co.

Phosphates—
Rotterdam, 11 cks. Wilson, Son, & Co.

Pitch—
Hamburg, 58 cks.
Rotterdam, 12 Wilson, Son, & Co.

Potash—
Hamburg, 31 cks.
Rotterdam, 34 Wilson, Son, & Co.

Potassium Carbonate—
Stettin, 38 cks. Stott, Coker, & Co.

Potassium Prussiate—
Antwerp, 16 brls.

Saltpetre—
Rotterdam, 6 cks. Wilson, Son, & Co.

Shumac—
Messina, 1 brl.

Soda—
Hamburg, 13 cks.

Sodium Acetate—
Antwerp, 2 cks.

Starch—
Antwerp, 224 cs.
Rotterdam, 75 Wilson, Son, & Co.

Stearine—
Antwerp, 132 bgs.

Tannic Acid—
Rotterdam, 2 cks. Wilson, Son, & Co.

Tartaric Acid—
Rotterdam, 10 cks. 20 kgs. Wilson, Son, & Co.

Waste Salt—
Hamburg, qty.

White Lead—
Antwerp, 3 cks.

Wood Pulp—
Gefle, 6,200 bls.

Zinc Ashes—
Antwerp, 23 cks.
Stettin, 15 Stott, Coker, & Co.

Zinc Sulphate—
Rotterdam, 5 brls. Wilson, Son, & Co.

Zinc White—
Rotterdam, 5 cks. Wilson, Son, & Co.

HULL.

Week ending December 25th.

Acetanilide—
Amsterdam, 2 cks. Hutchinson & Son

Acetic Acid—
Rotterdam, 34 blns. Hutchinson & Son

Acids—
Leghorn, 16 cks. Wilson, Sons, & Co., Ld.

Alum—
Riga, 152 cks Wilson, Sons, & Co., Ld.

Antimony—
Leghorn, 10 cks. Wilson, Sons, & Co., Ld.

Asbestos—
Genoa, 18 bls.

Barytes—
Antwerp, 70 cks. Bailey & Leetham, Ld.

Bone Meal—
Rotterdam, 500 bgs. Hutchinson & Son

Castor Oil—
Leghorn, 10 cs. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Bremen, 3 cs. Veltmann & Co.
Dunkirk, 18 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 2 W. & C. L. Ringrose

Cod Oil—
Christiansund, 2 brls. Wilson, Sons, & Co., Ld.
Aalesund, 5 "

Colours—
Rotterdam, 10 cks. 20 cs. Hutchinson & Son
Rotterdam, 1 20 brls. 36 pks. W. & C. L. Ringrose
Amsterdam, 11 cks. 22 pks. Hutchinson & Son
Riga, 308 Wilson, Sons, & Co., Ld.

Cryolite—
Copenhagen, 4 cks. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 9 pks. 3 brls. W. & C. L. Ringrose
Madder
Rotterdam, 4 cks. J. Pyefinch & Co.

Farina—
Hamburg, 200 bgs. Wilson, Sons, & Co., Ld.
Stettin, 1 "
" 400

Glucose—
New York, 100 brls.

Glue—
Amsterdam, 4 cs. Hutchinson & Son
Rouen, 5 bgs. 20 bls.
Rotterdam, 3 Hutchinson & Son
Christiania, 40 Wilson, Sons, & Co., Ld.
Hamburg, 3 cks. 40 bgs. "
Dunkirk, 36 cks. "

Lead Acetate—
Hamburg, 16 cks. Bailey & Leetham, Ld.

Paint—
Copenhagen, 1 cs. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 160 t.

Pitch—
Amsterdam, 13 cks. Hutchinson & Son

Potash—
Hamburg, 15 dms. Bailey & Leetham, Ld.

Pumice Stone—
Leghorn, 15 brls.

Saltpetre—
Hamburg, 5 cks. 12 bgs. Wilson, Sons, & Co., Ld.

Soap—
Marseilles, 35 cs. Wilson, Sons, & Co., Ld.
" 13
Naples, 38 "

Soda—
Ghent, 200 bgs. Wilson, Sons, & Co., Ld.

Starch—
Bremen, 1,514 cs. Veltmann & Co.
Ghent, 146 Wilson, Sons, & Co., Ld.
Odessa, 100 bgs. "
Rotterdam, 307 cs. Reckitt & Sons

Talc—
Genoa, 50 bgs.

Tallow—
New York, 100 tcs. Wilson, Sons, & Co., Ld.
Dunkirk, 30 cks.

Tartar—
Bordeaux, 11 cks. Rawson & Robinson
Naples, 23 Wilson, Sons, & Co., Ld.

Treacle—
New York, 75 brls. Wilson, Sons, & Co., Ld.

Turpentine—
Libau, 52 brls. Redfern & Chatterton

Ultramarine—
Bremen, 12 cks.
Rotterdam, 1 W. & C. L. Ringrose

Varnish—
Hamburg, 2 dms. Wilson, Sons, & Co., Ld.

White Lead—
Rotterdam, 113 cks. Hutchinson & Son
Amsterdam, 48 "
Antwerp, 5 Bailey & Leetham, Ld.
Amsterdam, 13 W. & C. L. Ringrose
Dunkirk, 16

Wood Pulp—
Drontheim, 560 bls. Wilson, Sons, & Co., Ld.
Christiania, 1,690 "
Gothenburg, 204 "
Hamburg, 120 pks. Bailey & Leetham, Ld.
Helsingfors, 387 bls. J. Good & Sons

GLASGOW.

Week ending December 30th.

Acetic Acid—
Rotterdam, 10 dmjhns. J. Rankine & Son

Acids—
Amsterdam, 2 dms. J. Rankine & Son

Alum—
Rotterdam, 65 qr-cks. J. Rankine & Son

Alumina Sulphate—
Rotterdam, 84 bgs. J. Rankine & Son

Ammonium Chloride—
Rotterdam, 8 cks. J. Rankine & Son

Arachide Oil—
Rotterdam, 22 cks. J. Rankine & Son

Barytes—
Hamburg, 15 cks. 80 bgs.
Rotterdam, 44 cks. 59 qr-cks. J. Rankine & Son

Bone Meal—
Bombay, 6,500 bgs.

Castor Oil—
Marseilles, 25 pks.

China Clay—
Hamburg, 40 bgs.

Colours—
Hamburg, 4 cs. 14 cks.
Rotterdam, 5 3 brls. 4 bxs. 1 ck. J. Rankine & Son

Cottonseed Oil—
New York, 200 brls.

Dyestuffs—
Alizarine
Rotterdam, 188 cks. 1 bx. 23 brls. 1 cs. J. Rankine & Son
Aniline
Rotterdam, 26 cks. 8 brls. 5 bxs 9 cs. J. Rankine & Son
Cutch
Rangoon, 669 bxs. P. Henderson & Co.

Farina—
Hamburg, 100 bgs.

Gelatine—
Hamburg, 5 cs.

Glucose—
New York, 800 brls.

Glue—
Hamburg, 2 cks.
Rotterdam, 41 bgs. J. Rankine & Son
Rouen, 10 pks. 21 cks.

Guano—
Lobos de Alfuera, 1,346 t. John Poynter, Son & M'Donald

Lead Acetate—
Hamburg, 23 cks.

Litharge—
Rotterdam, 41 cks. J. Rankine & Son

Magnesium Chloride—
Hamburg, 100 dms.

Ochre—
Baltimore, 157 brls.
N'port News, 250
Rotterdam, 4 cks. J. Rankine & Son

Oxalic Acid—
Rotterdam, 6 cks. J. Rankine & Son

Paraffin Scale—
Philadelphia, 270 brls.
Rangoon, 150 bxs. 550 bgs. P. Henderson & Co.

Paraffin Wax—
Baltimore, 100 brls.

Phosphates—
Antwerp, 576 bgs. Crawford & Co.

Plumbago—
St. John's, 1 brl.

Potash—
Rotterdam, 52 cks. 143 qr-cks. J. Rankine & Son
Hamburg, 40 dms.

Pyrites—
Huelva, 1,675 t. Tharsis Co.

Saltpetre—
Hamburg, 45 cks.

Soap—
Newport News, 34 brls. 100 bxs.

Soda Ash—
Rotterdam, 100 bgs. J. Rankine & Son

Sodium Acetate—
Rouen, 8 cks.

Starch—
New York, 100 cks.

Stearine—
Amsterdam, 63 bgs. J. Rankine & Son

Tallow—
Baltimore, 30 tcs.

Tartar—
Bordeaux, 7 cks.

Tartaric Acid—
Marseilles, 2 brls.
Treacle—
Philadelphia, 1,100 brls.
New York, 975
Ultramarine—
Rotterdam, 1 ck. J. Rankine
14 cs. 2 crts. & Son
Waste Salt—
Hamburg, 130 cks.
White Lead—
Rotterdam, 59 cks. J. Rankine & Son
Wood Pulp—
Aalesund, 16 bls.
Zinc Oxide—
Antwerp, 35 cks. Crawford & Co.
Zinc White—
Rotterdam, 85 cks. J. Rankine & Son

TYNE.

Week ending December 25th.

Ammonium Chloride—
Rotterdam, 5 cks. Tyne S. S. Co.
Barium Chlorate—
Rotterdam, 700 bgs. Tyne S. S. Co.
Barytes—
Rotterdam, 268 bgs. Tyne
22 cks. S. S. Co.
Glucose—
New York, 200 brls. Furness, Withy, & Co.
Soap—
Rotterdam, 3 cs. Tyne S. S. Co.
Starch—
Rotterdam, 188 cs. Tyne S. S. Co.
New York, 100 bgs. Furness, Withy, & Co.
Wood Pulp—
Christiania, 550 bls.
Zinc Chloride—
Rotterdam, 20 tins Tyne S. S. Co.

GOOLE.

Week ending December 22nd.

Alizarine—
Rotterdam, 127 cks. 6 cs.
Alkali—
Calais, 11 cks.
Alum—
Rotterdam, 6 cks.
Anthracene—
Boulogne, 5 cks.
Antimony Sulphide—
Boulogne, 3 cks.
Caoutchouc—
Boulogne, 2 cks. 1 cs.
Colours—
Hamburg, 20 cks. 4 cs.
Dyestuffs *(otherwise undescribed)*
Boulogne, 48 cks. 4 cs.
Hamburg, 65 pcs.
Rotterdam, 225 64
Farina—
Delfszyhl, 500 bgs.
Hamburg, 100
Glucose—
Calais, 100 bgs.
Glue—
Hamburg, 26 bgs.
Indigo—
Rotterdam, 10 cks.
Madder—
Rotterdam, 3 cks.
Potash—
Antwerp, 7 cks.
Dunkirk, 10 60 dms.
Pyrites—
Huelva, 590 t.
Saltpetre—
Rotterdam, 200 bgs.
Antwerp, { 85 / 10 cks.
Hamburg, 3
Soda—
Rotterdam, 42 cks.
Starch—
Ghent, 195 cs.
Tanners' Bark—
Antwerp, 350 bgs.
Tartaric Acid—
Rotterdam, 2 cks.
Waste Salt—
Hamburg, { 396 bgs. / 235 cks.
Wood Pulp—
Rotterdam, 103 bls.

GRIMSBY.

Week ending December 24th.

Acetic Acid—
Antwerp, 3 cs.
Albumen—
Hamburg, 7 cks.
Barytes—
Rotterdam, 268 bgs.
Caoutchouc—
Hamburg, 2 cs.
Esbjerg, 1
Antwerp, 1 pk.
Rotterdam, 2
Chemicals *(otherwise undescribed)*
Hamburg, 17 cks. 3 cs.
Colours—
Rotterdam, 10 cks.
Hamburg, 7 4 cs. 19 pks.
Farina—
Hamburg, 100 bgs.
Glue—
Dieppe, 7 pks.
Waste Salt—
Hamburg, 500 bgs.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending December 29th.

Acids—
New York, 10 cs. £18
Ammonia—
Cologne, 11 t. 6 c. £270
Sydney, 4 20
Ammonium Carbonate—
Sydney, 15 cs. £21
Paris, 1 t. 27
Ammonium Chloride—
Auckland, 1 t. 10 c. £27
Shanghai, 11 18
Ammonium Sulphate—
Bremen, 125 t. £1,125
Mauritius, 305 2,798
Ostend, 170 1,530
Ghent, 70 630
Antwerp, 25 5 c. 225
Amorphous Phosphorus—
Cape Town, 15 cs. £196
Pt. Elizabeth, 5 65
Anhydrous Ammonia—
Cologne, 23 cylders. £160
Rangoon, 6 c. 13
Arsenic—
Piræus, 8 c. £10
Borax—
Sydney, 1 t. 10 c. £22
Rotterdam, 2 17 102
Brussels, 1 2 56
Carbolic Acid—
Wellington, 2 cs. £11
New York, 5 35
Calcutta, 12 50
Pt. Elizabeth, 2 5
Carbon Bisulphide—
Sydney, 1 t. 5 c. £25
Caustic Potash—
Wanganui, 3 t. £62
Wellington, 1 35
Caustic Soda—
Yokohama, 15 t. £160
Lyttelton, 6 5 c. 45
Rockhamptnn, 2 6
Durban, 4 4 96
E. London, 1 6 26
Philadelphia, 67 402
Pt. Said, 5 5
Delagoa Bay, 1 16 40
Chemicals *(otherwise undescribed)*
Brussels, 4 cks. £12
Durban, 10 cs. 130
Shanghai, 20 pks 77
Wellington, 8 48
Dunkirk, 68 900
Bremen, 20 86
Singapore, 5 12
Madras, 20 kgs. 28
Melbourne, 27 49
Adelaide, 22 14 50
Fremantle, 12 41
Perth, 28 57
Brisbane, 2 cs. 31
Antwerp, 1 31
Hamburg, 12 57 kgs. 404
Rotterdam, 3 10 97
Citric Acid—
Durban, 1 c. £7
Cape Town, 5 29
Sydney, 1 t. 113
Coal Products—
Alizarine
New York, 35 cks. £385
Aniline
Boulogne. 1 ck. £18
Melbourne. 1 cs. 29
Anthracene
Cologne, 302 cks. £2,400
Dusseldorf, 45 254
Benzine
Otago, 10 dms. £5
Benzol
Rotterdam, 48 cks. 4 dms. £260
Yokohama, 2 cs. 6
Treport, 47 170
Creosote
New York, 500 cks. £287
Creosote Salts
Philadelphia, 621 bgs. £144
Naphtha
Otago, 10 dms. £8
Pitch
Cologne, 215 t. 14 pks. £229
Dunkirk, 3,064 3,763
Sables d'Olonne 899 989
Antwerp, 420 400
Newport News, 588 bgs. 74
New York, 16 brls. 40
Boston, 1,400 cks. 613
Tar
E. London, 150 dms. £9
Durban, 470 27
Trinidad, 25½ brls. 19
Calcutta, 202 95
Tar Oil
Shanghai, 2 cks. £8
Coal Products *(otherwise undes.)*—
Durban, 450 pks. £22
Copper Sulphate—
Piræus, 1 t. £20
E. London, 2 c. 8
Cream of Tartar—
Wellington, 3 c. £12
Auckland, 5 19
Melbourne, 3 t. 10 266
E London, 2 cs. 18
Cape Town, 19 kgs. 75
Sydney, 96 384
Disinfectants—
Madras, 50 dms. £50
Sydney, 32 pks. 3 cs. 119
Shanghai, 3 21
Durban, 185 76
New York, 36 cks. 20 dms. 162
Dried Blood—
Dunkirk, 30 t. £180
Manure—
Barbadoes, 5 t. 2 c. £40
Bremen 606 4 1,385
Demerara, 10 90
Pt. Elizabeth, 1 5 82
Oporto, 3 26
Durban, 26 18 169
Cape Town, 780 4 2,540
B Ayres, 6 10 20
Lisbon, 8 2 55
Nitric Acid—
Madras, 10 c. £14
Phosphorus—
Sydney, 5 c. £28
Oporto, 3 cs. 42
Lisbon, 3 42
Potash—
Brussels, 5 c. £45
Potassium Bichromate—
Piræus, 1 t. 2 c. £52
Potassium Chlorate—
Otago, 5 c. £8
Pt. Elizabeth, 20 kgs. 33
Potassium Cyanide—
E. London, 10 t. 1 c. £917
Pt. Elizabeth, 9 798
Cape Town, 7 620
Sydney, 2 10 286
Durban, 2 13 170
Delagoa Bay. 10 1 726
Potassium Permanganate—
Cape Town, 5 c. £16
Potassium Prussiate—
Antwerp, 1 t. 11 c. £78
Saltpetre—
Auckland, 10 c. £10
Gothenburg, 1 t. 20
Sheep Dip—
E. London, 4 t. 4 c. £95
Durban, 1 13 44
M. Video, 2 14 85
B. Ayres, 81 17 1,095
New York, 20 dms. 8
Marseilles, 25 cs. 50
Soda Crystals—
Zanzibar, 1 t. 5 c. £7
Sodium Bicarbonate—
Sydney, 1 t. £24
Singapore, 1
Rangoon, 5 c. 6
Auckland, 3 11 22
Sodium Hyposulphite—
Shanghai, 10 c. £6
Sodium Silicate—
Auckland, 17 t. 10 c. £68
Sodium Sulphate—
Ghent, 40 t. £60
Sulphur—
Cape Town, 200 cks. 150 kgs. £236
Sulphuric Acid—
Durban, 10 cs. £18
Tartaric Acid—
Auckland, 5 c. £28
Boulogne, 5 30

LIVERPOOL.

Period ending December 29th.

Alum—
Beyrout, 6 t. £30
Oporto, 5 3 c. 25
Smyrna, 3 12 2 q. 20
Constantinople, 3 5 15
Melbourne, 1 5
M. Video, 1 9 7
Aluminous Cake—
Calcutta, 33 t. 2 c. £117
Bombay, 1 5 5
St. John's, N B., 1 19 9
Melbourne, 6 2 19
Ammonium Carbonate—
Halifax, N.S., 5 c. £7
Sydney, 10 14
Marseilles, 7 10
Ancona, 10 14
Leghorn, 10 14
Ammonium Chloride—
Varna, 12 c. £19
Dedeagatch, 10 17
Constantinople, 4 6
Piræus, 10 2 q. 18
Leghorn, 1 t. 19 61
Bilbao, 6 5 94
Genoa, 2 18 65
Ammonium Sulphate—
Ghent. 50 t. £410
Madeira, 25 175
New York, 95 5 c. 855
Boston, 45 10 405
Nantes, 10 76
Philadelphia, 25 10 225
Leghorn, 10 1 85
San Francisco, 99 1 2 q. 792
Valencia, 249 10 2,235
Las Palmas, 31 297
Bleaching Powder—
Baltimore, 30 bxs.
Bombay, 15 cks. 18
Boston, 268
Ghent, 72
Havana, 40 brls.

Malaga,	5			
Naples,	5			
Newport News,	42			
New York,	212			
Rouen,	29			
Seville,	20			
Shanghai,		15 c.	1 q.	£6

Boracic Acid—

Antwerp,	1 t.	11 c.	1 q.	£38
Copenhagen,	4	15		119

Borax—

Ghent,		10 c.		£14
Antwerp,	2 t.			56
New York,		4		11
Portland, M.,	3	3		54
Bordeaux,	5			100
Lisbon,	1			20
Copenhagen,	5			100
Rotterdam	13	11		215
B. Ayres,	2	18		50
Adelaide,		10		8
Sydney,	2			30
Vera Cruz,		10	3 q.	£7
E. London,	3	5	1	56
Genoa,	2	10		37

Calcium—

Genoa,	1 t.	16 c.		£6

Calcium Chloride—

Genoa,	2 t.	1 c.		£5
Marseilles,	2	12		6

Carbolic Acid—

Hamburg,	1 t	1 c.		£70
Rotterdam,	16			300
E. London,		2	1 q.	11
Oporto,		14	3	52
New York,	3			205
Hiogo,	5			344
Rouen,	5	16	3	70

Caustic Soda—

Adelaide,	18 dms.	
Antwerp,	45	
Bahia,	20	
Baltimore,	175	10 brls. 50 bxs.
Barcelona,	257	58 pks.
Bari,	87	
Bilbao,	60	
Brindisi,	20	
B. Ayres,		qty.
Cape Town,		12 cs.
Cartagena,	35	
Cienfuegos,	26	
E. London,		9
Fiume,	15	
Halifax,		12 tins
Hamburg,	74	
Havana,	40	
Hiogo,	211	
Las Palmas,	7	
Lisbon,	15	
Malaga,	60	
Malta,	7	
Manila,	75	
Marseilles,	200	
Melbourne,	47	
Naples,	50	
New York,	275	
Oporto,	37	
Portland,		46 cks.
Rotterdam,	160	
Rouen,	180	
San Francisco,	195	
Santander,	16	
Sydney,	19	
Tarragona,	35	
Trieste,	29	

Chemicals *(otherwise undescribed)*

Genoa,	1 t.			£31
Alexandria,	1			31
Constantinople,	5			147
Calcutta,	50	16 c.		£135
Hamburg,		17		25
Melbourne,		5		7
Philadelphia,	12	19		391
Odessa,	2	10		62

China Clay—

Barcelona,	103 cks.	
Bombay,	268	
Boston,	733	
Lisbon,	40	90 bgs.
Philadelphia,	240	
Portland,	1,002	
Rio de Janeiro,	40	

Coal Products—

Aniline Oil

Havre,	5 brls.
Philadelphia,	10 dms
Vera Cruz,	4

Aniline Salts

Boston,	105 cks.	
Rotterdam,		2 pns.
Vera Cruz,	9	

Pitch

Hamburg,	6 cks.
Portland,	6
Rouen,	2

Tar

Accra,	25 brls.
Santos,	8

Copper Sulphate—

Calcutta,		12 c.		£8
Oporto,	2 t.	2	3 q.	£33
Palermo,	1			16
New York,	1	10		23
Naples,	5	1		76
Nantes,	31	13		531
Kurrachee,	1	5		20
Genoa,	5		2	79
Trieste,	49	16		750
Fiume,	50	11		782
Talcahuano,	1	13		27
Marseilles,	10	2	1	162
Algiers,	29	9	1	452
Rouen,	56		3	888
Ancona,	13		1	205
Alexandria,	2	14	2	42
Bordeaux,	175	19	1	2,797
Catania,	5	13	1	96
Leghorn,	19	19		307
Cette,	1,008	17	1	16,362

Copperas—

Sydney,	2 t.	18 c.	3 q.	£7
Constantinople,	4			7

Cream of Tartar—

Tampico,		2 c.		£8

Gypsum—

Naples,	80 cks.	£60

Iodine—

Hamburg,	65 brls.	£6,100

Lime—

Pt. Natal,	4 t.	£9

Magnesium Chloride—

Rouen,	5 t.	2 c.	1 q.	£12

Magnesium Sulphate—

Lisbon,	10 cks.

Manure—

Las Palmas,	11 t.	10 c.	£99

Muriatic Acid—

Pernambuco,		9 c.	£5

Oxalic Acid—

Boston,	5 t.	15 c.	£153

Paint—

Alexandria,	79 kgs.		
Algoa Bay,			1 ck.
Antofagasta,	16		11
Bahia,	10		
Bathurst,	30		
Beyrout,	15		
Bordeaux,	100		
Calcutta,	413		
Egwanga,		10 dms.	
Cameroons,		125 pks.	
Halifax,			25
Hamburg,		66	
Havre,		6	
La Libertad,		63	
Madras,	251		
Malta,		8	
Manaos,		41	
Manila,		107	
Messina,		390	
M. Video,	38		
N. Orleans,		20 dms.	
New York			4
Para,	34 brls.	60	3 cs.
Pt. Said,		27 pks.	
Rangoon,		12	
Savanilla,			25
Sierra Leone,	446 kgs.		
Smyrna,	20		
Tripoli,	15		
Venice,		8	

Painters' Colours—

Alexandria,		45 brls.	
Algoa Bay,	217 kgs		
Boston,	7		
B. Ayres,	109 cks.		65 cs.
Gothenburg,			40 bgs.
Halifax,	27		
Oporto	20		
Para,		30	
Rio Grande do Sul,		10	

Paraffin Wax—

Bahia,		5 cs.
Barcelona,	20 bgs.	
Odessa,	330	
Para,		20
Rangoon,		6

Phosphorus—

Vera Cruz,		2 c.		£22
Shanghai,		18		180
Hiogo,	3 t.	5		725
Rio de Janeiro,		5		70

Potash Salts—

N. Orleans,	12 t.	8 c.	2 q.	£980

Potassium Bichromate—

Alexandria,		8 c.		£18
Havre,	5 t.	19	1 q.	223
Syra,		3		6

Potassium Chlorate—

Mexico City,		10 c.		£20
Naples,	1 t.	6		40
Venice,		16		25
Libau,	15			464
Yoko,	5			163
Reval,	8	10		277
Copenhagen,	10			320
Philadelphia,	8	15		260
New York,	2	10		72
Hiogo,	22	10		732
Amsterdam,		4		7
Hamburg,	7	3		234
Rio de Janeiro,	9	19		329

Potassium Chloride—

Hamburg,	5 t.	9 c.		£163

Potassium Stannate

Bombay,	1 t.	6 c.		£70

Salt—

Antwerp,	150 t.	
Appam,	6	5 c.
Barbadoes,	50	
Boston,	190	
B. Ayres,	2	3 cs.
Calcutta,	3,205	
Cameroons,	156	3 c.
Cape Town,	100	
Cape Mould,	1	
Conakry,	100	
E. London,	2	4
Egwanga,	38	
Fuca Fuca,	20	
Ghent,	50	
Gd. Bassa,		10
Halifax,	170	
Hamburg,	110	
Kingston,	7	
Matadi,	59	12
Mobile,	190	
M. Video,	1	2
N. Orleans,	659	
New York,	90	
Newcastle,	100	
Noqui,	20	
Old Calabar,	240	5
Opobo,	153	
Pt. Elizabeth,	5	
Portland,	50	
Rosario,	20	
Rotterdam,	182	
St. John's, N'fld.,	6	
St. John's, N.B.,	542	
Salt Pond,	500 bgs.	
Sapeli,	4 t.	
Savannah,	600	
Shanghai,		17 cs.
Sydney,	50	
Trinidad,	58	15 c.
Ukaka,	18	15
Vancouver,	250	

Saltpetre—

Maranham,	2 t.	9 c.		£51
Santos,	6		2 q.	126
Pernambuco,	2	17		59

Sheep Dip—

B. Ayres,	11 t.	3 c.	1 q.	£312

Soap—

Alexandria,		20 cs.
Algoa Bay,	2,330 bxs.	
Antwerp,		1,794
Axim,		1
Barbadoes,		2
Bombay,	2,090	75 bdls.
Cabenda,	100	
C. C. Castle,	50	
Cape Town,	3,530	
Cartagena, N.G.,		8
Chama,	110	
Colon,	700	
Constantinople,	322	
Curacao,	140	
Delagoa Bay,	1,605	130
E. London,	20	
Gibraltar,	486	
Half Jack,		1
Hong Kong,	4	
Kingston,	2,200	
Laundaux,	60	
Madras,		14
Malta,		80
Manaos,	500	
Matadi,	33	
Mussera,	50	
N. Orleans,	70	
New York,	559	
Opobo,	500	
Para,		1
Piræus,		11
Pt. Said,	10 kgs.	
Portland,	3 bxs.	
Pt. Natal,	1,150	50
Rangoon,	500	
Rotterdam,		570
St. John's, N'fd.,	32	22
St. Kitts,	50	
St. Lucia,	108	
Shanghai,	4,950	
Singapore,	208	
Smyrna,	44	
Trinidad,	210	
Valparaiso,	31	

Soda—

B. Ayres,		10 brls.
Sydney,	343 dms.	

Soda Alkali—

Catania,		35 brls.
Melbourne,		35
Messina,		35

Soda Ash—

Antwerp	2,997 bgs.	
Baltimore,		22 cks.
Bombay,	50 kgs.	21
Boston,	880 bgs.	80
B. Ayres,		150
Cadiz,		28
Copenhagen,	1,060	
Corfu,		50
Fiume,	100	
Genoa,	100	
Ghent,	50	10
Hamburg,	200	
Hiogo,		514
Leghorn,	100	
Malaga,		4
New York,	1,200	
Philadelphia,	1,920	182 tcs.
Rio de Janeiro,		40 brls.
Rotterdam,	100	
St. John's, N'fld.,		7
Salonica,	62	96

Soda Crystals—

Bombay,	150 kgs.	
Cape Town,	25	
New York,		280 cks.
Philadelphia,	30	
Pt. Natal,	15	40 brls.
Vigo,	34	

Sodium Bicarbonate—

Adelaide,	100 bgs.	
Algoa Bay,	20 kgs.	7 brls.
Alicante,	20	
Antwerp,		10 cks.
Barcelona,	30	
Bombay,	60	5
Bordeaux,	150	
Colombo,	15	6
Delagoa Bay,	100	4
Hiogo,	600	
Hong Kong,	14	
Kustendjie,	20	
Madras,	10 bgs.	
Malaga,	60 kgs.	
Marseilles,	125	
Newcastle,	100 / 50 bgs.	
Rangoon,	50 kgs.	
Rouen,	60	
Seville,		24 cs.
Victoria,	50	
Yokohama,	300	

Sodium Carbonate—

Bombay,		20 dms.
Boston,	56 brls.	

Sodium Chlorate—

Philadelphia,	100 kgs.	
Rotterdam,	5	
New York,	10	

Sodium Hyposulphite—

Callao,	90 kgs.	
San Francisco,	300	

Sodium Silicate—

Rouen,	20 cks.	

Sulphur—

Bahia,	1 t.	12 c.	1 q.	£
Maranham,		4	3	
Boston,	175	7		7

Sulphuric Acid—

Bahia,	16 c.	£
Rio de Janeiro,	10 cs.	

Superphosphates—

Barcelona,	200 t.			£5
Las Palmas,	2			
Nantes,	58	11 c.	1 q.	1

Tannic Acid—

Bahia,	1 c.	£

Tartaric Acid—

Bahia,	3 c.	£

Varnish—

Antwerp,	18 cks.	
Algoa Bay,		11 dms.
Barcelona,	5 cs.	
Colombo,	4	
Genoa,		3 pks.
Madras,	3	
Melbourne,	45	5 dms.
Muculla,	15 brls.	
Seville,	2 cs.	
Smyrna,	3	

MANCHESTER.

Period ending December 25th.

Albumen—
Rouen, 4 cks

Alum—
Bombay, 500 brls.
Alexandria, 150 cks.
Mersyne, 30

Ammonium Carbonate—
Hamburg, 7 kgs.

Ammonium Chloride—
Beyrout, 10 brls.
Mersyne, 3 cks.

Aniline Colours—
Hamburg, 4 kgs. 1 cs. 4 brls.

Aniline Oil—
Hamburg, 13 dms.

Carbolic Acid—
Rouen, 60 btls.

Copperas—
Beyrout, 2 cks.

Cottonseed Oil—
Tunis, 75 brls.

Dried Blood—
Rouen, 52 bgs.

Glue—
Antwerp, 10 cks.
Rotterdam, 10

Linseed Oil—
Tunis, 5 brls.
Alexandria, 6

Naphthylamine—
Antwerp, 17 cks.

Painters' Colours—
Beyrout, 5 cks.

Paraffin Wax—
Hamburg, 10 cs.
Jaffa, 10

Pitch—
Antwerp, 127 t. 16 c.
Cette, 991

Plumbago—
Christiania, 1 ck.

Rosin—
Bombay, 120 brls.

Salt—
Copenhagen, 172 t.

Soap—
Bombay, 1 cs.

Soda Crystals—
Tunis, 3 brls.

Sodium Naphthionate—
Antwerp, 40 cks.

Tallow—
Tunis, 2 bxs.

Tar Oil—
Hamburg, 16 cks.

Toluol—
Rotterdam, 29 dms.

Zinc Chloride—
Bombay, 18 cks.

HULL.

Week ending December 25th.

Alkali—
Fiume, 20 cks.
Helsingfors, 18
Venice, 10 45 dms.

Ammonium Sulphate—
Antwerp, 150 bgs.
Dunkirk, 100
Ghent, 50

Aniline Colours—
Stettin, 1 cs.

Bleaching Powder—
Danzig, 31 cks.
Reval, 130

Carbolic Acid—
Amsterdam, 292 cks.

Chemicals (*otherwise undescribed*)
Amsterdam, 4 cks.
Antwerp, 3 15 pks.
Alexandria, 12 cs.
Christiania, 5 4 2,573 slbs.
Copenhagen, 36 40 pks.
Dunkirk, 3 1
Danzig, 9
Gothenburg, 31
Genoa, 136 3
Hamburg, 15 133
Konigsberg 4
Liban, 4 20 kgs.
Rotterdam, 4 36 10
Reval, 8 1 134 pks.
Riga, 25
Stettin, 134 bgs. 30
Norrkoping, 15

Cottonseed Oil—
Amsterdam, 2,603 c.
Antwerp, 1,012
Bremen, 109
Copenhagen, 203
Dunkirk, 252
Gothenburg, 16
Hamburg, 957
Marseilles, 7,510
Rotterdam, 611
Rouen, 1,501
Stettin, 350
Trieste, 589

Creosote—
Alexandria, 250 cks.

Dyestuffs (*otherwise unescribea*)
Reval, 4 cks.
Stettin, 60 bgs.

Glue—
Gothenburg, 36 bgs.

Linseed Oil—
Antwerp, 42 c.
Bergen, 34
Christiania, 187
Copenhagen, 35
Ghent, 43
Guernsey, 10
Hamburg, 29

Manure—
Adelaide, 1,474 t.
Genoa, 152
Marseilles, 21

Mineral White—
Harlingen, 200 sks.

Naphtha—
Marseilles, 66 cks.

Painters' Colours—
Amsterdam, 1 ck.
Antwerp, 24 1 cs.
Christiania, 2 1 8 pks.
Copenhagen, 1
Danzig, 24
Gothenburg, 2 dms.
Ghent, 4
Guernsey, 3 107 9 pks.
Hamburg, 26 2
Harlingen, 2
Marseilles, 1 64 dms.
New York, 257 2 kgs.
Rouen, 26 2
Reval, 1
Riga, 15
Venice, 15
Palermo, 4
Rotterdam, 12 5 dms.
Helsingfors, 2 1

Pitch—
Antwerp, 150 t.
Dunkirk 410

Soap—
Christiania, 4 cs.
Drontheim, 55 45 pks.

Sodium Nitrate—
Adelaide, 51 t.

Superphosphates—
Adelaide, 350 t.

Tallow—
Stockholm, 13 cks.

Treacle—
Drontheim, 25 cks

Varnish—
Dunkirk, 2 dms.
Hamburg, 1 cs.
Riga, 1 ck

GLASGOW.

Week ending December 30th.

Ammonium Sulphate—
Italy, 95 t. 11¼ c.
Valencia, 29 19¾
Hamburg, 106 8
Rotterdam, 10 5

Boracic Acid—
Rouen, £30

Borax—
Hamburg, 13 c.
Rotterdam, £163

Coal Products—
Naphthaline
Antwerp, £20
Pitch
Portugal, £161
Caen, 650 t.
Tar
Christiania, £36
Drontheim, 6 t. 5 c.
Colombo, 43
Tar Oil
Hamburg, 15 c.
Tar and Pitch
Bombay, £278

Coal Products (*otherwise under.*)—
Amsterdam, 11 t. 15¾ c.
Rotterdam, qty.
" £430

Cod Oil—
Italy, £298

Dyestuffs (*otherwise undescribea*)
Rotterdam, £74
U.S.A., 21

Extracts—
Calcutta, £55 11s.

Glucose—
Cape Town, 7 t. 14¾ c.

Guano—
Malaga, 20 t. 2 c.

Lead Acetate—
Lisbon, £20

Litharge—
Montreal, £31

Logwood—
Gothenburg, £65
Lisbon, £34 13s.

Magnesium Sulphate—
Bombay, £60

Manganese—
Antwerp, £95
Rotterdam 35

Manganese Oxide—
U.S.A., £105

Mica—
Hamburg, qty.

Paint—
Algoa Bay, £42 16s.
Natal, £51
Colombo, 123
Havana, 56

Painters' Colours—
Amsterdam, £17
Huelva, qty.
Calcutta, "

Paraffin Wax—
Barcelona, £637
Italy, 419
Rouen, £20 12s.
Christiania, £25
Madras, 32
Bombay, 20
France, 50

Potash Salts—
Madras, £987

Potassium Bichromate—
Antwerp, £35
Barcelona, 357
Italy, 193
Rouen, 181
Christiania, 177

Potassium Prussiate—
Antwerp, £68

Soap—
Bombay, 2 t. 9 c.
Johannesburg, 2 10
E. London, 2 10

Sodium Arseniate—
Lisbon, 1 t. 12 c.

Sodium Bichromate—
Barcelona, 1 t. 3 c.
Italy, 15 7
Rouen, 9 17
Lisbon, 19

Starch—
Barcelona, £45
Rotterdam, 120
Rio de Janeiro, 47

Sulphuric Acid—
Calcutta, £30

Superphosphates—
Hong Kong, 90 t.

Treacle—
Algoa Bay, 1 t. 15 c.
Christiania, 37 3¾

Zinc Ashes—
Rotterdam, £90

TYNE.

Week ending December 25th.

Alkali—
Amsterdam, 38 t.
Rotterdam, 10 10 c.

Ammonia—
Barcelona, 8 t. 4 c.

Ammonium Carbonate—
Hamburg, 14 c.

Ammonium Sulphate—
Odense, 5 t.

Antimony—
Hamburg, 7 t.

Barium Binoxide—
Antwerp, 5 t. 17 c.
Barcelona, 1 4

Barium Carbonate—
Copenhagen, 10 c.

Bleaching Powder—
Amsterdam, 20 t. 3 c.
Antwerp, 3 2
Rotterdam, 33 4
Bergen, 5 2

Caustic Soda—
Amsterdam, 10 t. 18 c.
Copenhagen, 4 7
Rotterdam, 11 5

Magnesia—
Hamburg, 3 c.
Antwerp, 9
Barcelona, 15 t. 15

Paint—
Hamburg, 10 c.
Rotterdam, 10
Antwerp, 14
Bergen, 5

Soda—
Amsterdam, 50 t.
Christiania, 18 10 c.
Randers, 16 19
Horsens, 19 18
Aarhuus, 5
Esbjerg, 55

Soda Ash—
Antwerp, 6 t. 15 c.

Sodium Hyposulphite—
Hamburg, 20 t.

Sodium Silicate—
Hamburg, 4 t. 19 c.

Sodium Sulphate—
Amsterdam, 1 t. 3 c.

Sulphur—
Christiania, 350 "

GOOLE.

Week ending December 22nd.

Chemicals (*otherwise undescribed*)
Hamburg, 120 dms.

Coal Products (*otherwise undes.*)—
Antwerp, 107 cs.
Boulogne, 2 cks.
Ghent, 8 3
Rotterdam, 307 1

Colours—
Amsterdam, 200 bgs.
Ghent, 1 ck.
Rotterdam, 12 cs.

Dyestuffs (*otherwise undescribed*)
Ghent, 1 ck. 27 bgs.

Manure—
Antwerp, 297 bgs.

Pitch—
Antwerp, 706 t.
Dunkirk, 181

Salt Cake—
Ghent, 100 t.

Soap—
Calais, 1 cs.

GRIMSBY.

Week ending December 24th.

Chemicals (*otherwise undescribed*)
Antwerp, 34 cks.
Rotterdam, 29 dms.

Coal Products (*otherwise undes.*)—
Dieppe, 100 cks.
Hamburg, 2 6 btls.
Rotterdam, 10

Colours—
Dieppe, 2 cs. 4 pks.
Hamburg, 2

Pitch—
Antwerp, 74 t.

PRICES CURRENT.

WEDNESDAY, JANUARY 5TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary*

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
" Glacial	"		39/-	
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80°Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¾
Oxalic	nett "	0	0	3½
Phosphoric, 1750°	"	0	0	11½
Picric	"	0	0	11
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	1½
Arsenic, white powdered	nett per ton	21	5	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	2	6
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	18	0	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	33/-	&	31/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	9	6	3
" " (grey) Hull	"	9	5	0
Aniline Oil (pure)	per lb.	0	0	7
Aniline Salt "	"	0	0	6½
Antimony	per ton	30	10	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	15	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6 to 65/-		
Bleaching Powder, 35 %	nett "	6	2	6
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	"	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	0
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	5½
" 50/90 "	"	0	1	8
Carbolic Acid (crude 60°)	per gallon	0	2	0
" (crystallised 40°)	per lb.	0	0	7¼
" (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	3
Crude Naphtha 30 % @ 120° C.	"	0	0	9
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	"	1	0	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	8
Copper	per ton	48	11	3
" Sulphate	"	16	0	0
" Oxide (copper scales)	"	44	10	0
Glycerine (crude)	"	22	10	0
" (distilled S.G. 1250°)	"	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	13	10	0
" Litharge Flake (ex ship)	"	16	0	0
" Acetate (white ")	"	23	0	0
" " brown ")	"	17	0	0
" Carbonate (white lead) pure	"	17	0	0
" Nitrate	"	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
" " (grey) (ex ship	"	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	"	16	0	0
" Borate	per cwt.	2	10	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	9
" " Miscible, 60° O.P	"	0	3	8
Oils:—				
Cotton-seed	per ton	15	5	0
Linseed	"	16	0	0
Stearine	per ton	22	0	0
Phosphorus (yellow)	per lb.	0	2	0
" (red)	"	0	2	9
Potassium (metal)	per oz.	0	3	7
" Bichromate	nett per lb.	0	0	4¼
" Carbonate, 90% (ex ship)	per ton	16	5	0
" Chlorate	per lb.	0	0	3⅝
" Cyanide, 98%	"	0	1	2
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	10	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (refined)	per cwt.	1	1	6
" Permanganate	per cwt.	3	15	0
" Prussiate Yellow	per lb.	0	0	6¾
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % (do.)	"	8	10	0
Silver (metal)	per oz.	0	2	2¼
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton (f.o.b. w'ks.)	4	15	0
" " (Caustic Soda-ash) 48 %	" " (f.o.b. w'ks.)	4	5	0
" " (Carb. Soda-ash) 48%	" " (f.o.b. w'ks.)	4	0	0
" " (Alkali) 58 %	" " (f.o.b. w'ks.)	3	17	6
" " (Soda Crystals)	" " (f.o.b. w'ks.)	2	5	0
" Acetate (ex-ship)	"	11	10	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	4⅜
" Borate (Borax)	net, per ton.	13	5	0
" Bichromate	" per lb.	0	0	3⅝
" Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton (in ton lots)	8	5	0
" " (74 % Caustic Soda)	" " " (in ton lots)	8	0	0
" " (70 % Caustic Soda)	" " " (in ton lots)	7	2	6
" " (60 % Caustic Soda)	" " " (in ton lots)	6	5	0
" " (pure liquor 90° Tw.)	" " " (in ton lots)	3	12	6
" " 77/78 % powdered (99 % hydrate)	"	12	5	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
" Nitrite, 98 %	per ton	26	10	0
" Phosphate	"	9	10	0
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	18	0
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	"	6	5	0
" Brimstone: Best Quality	"	4	10	0
Superphosphate of Lime (26%)	"	2	5	0
Tallow (Beef)	"	18	10	0
Tin Crystals	per lb.	0	0	4¾
" English Ingots	per ton	65	5	0
Zinc (Spelter)	"	18	0	0
" Chloride (solution, 100° Tw.)	"	5	15	0
" Sulphate, Crystal	"	5	15	0

THE

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AND

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LATE ADVERTISEMENT.

VITRIOL MAKER.—Wanted a competent, steady, working Foreman, who thoroughly understands his business, one with a knowledge of lead burning preferred. State age, experience, and wages required to "Sulphur," *Chemical Trade Journal* Office, Manchester.

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

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Prepaid Advertisements of Situations Vacant, Premises on Sale or To be Let Miscellaneous Wants, and Specific Articles for Sale by Private Contract are inserted in the *Chemical Trade Journal* at the following rates:—

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

PREVENTION IS BETTER THAN CURE.

THE lot of British agriculturists has not been a happy one during the last few years if all, or even half, the evidence given before the Agricultural Commission is to be believed; but if this worthy class is to retain a hold on public sympathy they must do something more than cry out for protection—they must see that they utilise to the full the means which are placed at their disposal Though sorry on many counts for farmers, we fear it is no use trying to ignore the fact that a great number of them sadly need to study Smiles on "Self Help," and to digest some of his lessons. It is no use hoping that the Government or some agricultural association will do more than indicate means for alleviating the existing depression. The *work* will have to be done by the farmers themselves, and it is not by emulating Mr. Micawber that any benefits will result.

A case in point is afforded by recent proceedings at Lichfield over a "juggle" in manures. We dare not call it a fraud, as his Honour Judge Jordan gave judgment against the farmer.

A manure for turnips was bought at £6. 10s. a ton, *without* the statement of its composition, which is compulsory under the Fertilizer and Feeding Stuffs Act. The crop was 11 tons against an average of 20 tons, and then the farmer wanted redress. He did not get it, although on demanding the guaranteed percentages obtainable under the Act and comparing them with the analysis of the fertilizer, only the nitrogen was up to the guarantee. He had to pay £14. 10s. for that manure, or, without the £5 allowed on his counterclaim, £19. 10s.

Now the cost of having the fertilizer analysed before purchasing, and the trouble of insisting on the guarantee, would have been small in each case, and had the fertilizer been up to the mark the cost of the analysis would have been a very small insurance premium to have paid for a decent crop. But, whether for fire or accident, you must insure before the disaster, it is no use after; yet farmers do not seem to grasp this fact in regard to fertilizers. Just for the sake of a few shillings this particular farmer, first of all, bought a fertilizer wholly unsuited for turnips. If its percentages of nitrogen and phosphates had been reversed it would have been worth considering as a turnip fertilizer. In the second place he paid £6. 10s. a ton for what was worth at the most £3., and dear at that. The analysis showed that the fertilizer was 80 % below the guarantee on the potash, and 45 % short on the phosphates. The analyst would have reported its value at £2 to £2 10s., and he would be a rash farmer who would still give £6. 10s. a ton for such a "patent manure." To any farmer who has looked beyond his own fields and learnt that a proper turnip fertilizer should contain about 17 % of soluble phosphates and 8 % of insoluble, this precious manure, with its total 3 % of phosphates, would have been a very "patent" manure indeed.

In the face of the foregoing facts, no doubt many will be wondering how it was that we said the farmer obtained no redress. Well, truth to tell, the case was not one of law but of farming, and his Honour (saving his presence) being a judge and not a farmer, was non-plussed by the evidence of the defendant's witnesses. Four of these, all more or less farmers, said they had grown good crops with this "patent manure," and intended to use it again. His Honour elected to be guided by "facts," and to discard the science—"speculation . . . simple theory" as he called it. The only th ng was that not being an agricultural chemist or a farmer he could scarcely be blamed for not being able to judge correctly which "facts" belonged to the three-parts-of-a lie class, and which were "faxs, and its faxs we want." The evidence of the gentlemen farmers who supported the manure vendor does not take much getting behind—even a cursory perusal of the last few volumes of the Journal of the Royal Agricultural Society will afford sufficient information - and as evidence it does not reflect much credit on Staffordshire farming. All we can say is that we hope these gentlemen will, as they declared, use the same manure again (at the same price) on their low condition land.

But apart from this particular aspect, a case which more strikingly emphasises the need for taking precautionary and preventive measures when buying patent fertilizers could hardly be cited. There is the Act! There is the analyst under the Act in almost every county! Why will farmers persist in squandering money with the recklessness of millionaires, on defective if not fraudulent fertilizers? They have only themselves to blame, for their lack of self-helpfulness.

JAVA INDIGO.

PRICES of Java Indigo have been steadily declining during the past year, and reached their lowest point in September and October. The fact that Java indigo had become much cheaper than any other kind led to a large business, but lately, however, the market has been a little quieter. A revival is expected, not only because about 1,700 chests of the last crop will shortly be brought into the market, but also because prices are still very low. The actual stock amounts to 3,720 chests against 2,510 chests on 31st December, 1896, but receipts were 3,200 chests more.

It is difficult as yet to give any particulars about the new crop. Some whole brands have been disposed of at prices far above Dutch parity, and the reports upon the new crop are favourable.

The quotations per avoirdupois pound, c i f. United Kingdom or United States of America, less 1 per cent. discount, for the last four years have been as follows:—

	Jan., 1897.	Jan., 1896.	Jan., 1895.	Jan., 1894.
	s. d. s d	s d. s. d.	s d. s d.	s. d. s. d.
Ordinary ..	3 2 to 4 0	4 0 to 4 0	4 8 to 5 0	4 9 to 5 3	5 6 to 6 3
Middling	4 2 to 4 6	4 10 to 5 1	5 2 to 5 6	5 4 to 5 10	6 5 to 6 7
Gd Middling	4 7 to 4 9	5 2 to 5 6	5 7 to 6 0	5 11 to 6 3	6 8 to 6 11
Fine.....	4 11 to 5 2	5 7 to 6 0	6 1 to 6 7	6 3 to 6 7	7 0 to 7 2
Superior....	no stock	6 1 to 6 7	6 8 to 7 0	6 10 to 7 1	7 0 to 7 5

The production of the last crop has been about 804 tons, against 680 in 1896, 604 in 1895, 495 in 1894, 632 in 1893, 638 in 1892, 711 in 1891, and 503 in 1890.

The figures given below show the movements of the last eight years: –

Holland.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.	
Imports	9,242	5,098	5,102	4,034	6,700	6,717	8,532	7,163	Chests.
Deliveries	8,032	4,402	5,314	4,631	6,537	11,033	5,528	6,518	
Stock, 31st Dec	3,720	2,510	914	1,036	728	565	3,021	977	

NITRATE STATISTICS.—The Permanent Nitrate Committee's public statistical circular for January states:—Total exports to Europe, December, 3,091,000 quintals; loading for Europe, Jan. 1st, 1,100,000 quintals; imports, Europe, December, 97,340 tons; deliveries, Europe, December, 62,610 tons; visible supply, Europe, January 1, stocks and afloat, 644,090 tons.

EXPORTS OF ALKALI AND BLEACH.

THE following returns, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries for the month of November, 1897, as compared with the same month of 1896:—

ALKALI.

Port.	1896.	1897.	1896.	1897.
	Cwts.	Cwts.	£	£
Russia	28,832	24,629	8,996	7,927
Sweden and Norway	8,988	10,542	1,805	2,206
Germany	10,554	13,058	2,693	2,549
Holland	11,686	19,377	2,295	3,627
France	3,676	5,468	1,363	1,831
Spain and Canaries	23,490	34,279	8,339	10,982
Italy	23,172	22,104	6,235	6,089
United States	192,728	116,757	44,381	25,333
Australasia	9,440	21,102	2,437	6,361
British North America ..	22,496	34,624	5,960	8,390
Other countries	79,718	170,230	22,657	46,542
Total	414,780	472,170	107,161	121,837

BLEACHING POWDER, ETC.

Port.	1896.	1897.	1896.	1897.
	Cwts.	Cwts.	£	£
United States	67,823	84,997	22,536	26,348
Other countries	43,351	46,941	14,892	14,768
Total	111,174	131,938	37,428	41,116

THE BRITISH ALUMINIUM CO., LTD.

COMPLETION OF THE WATER-POWER FACILITIES.

THE works of this Company, it will be remembered, were first put in operation in June, 1896. The necessary power is obtained by the utilization of the Foyers Falls. The task of impounding the waters has been brought to an end by the completion of the large storage works at Gorthleck. The reservoir, which is situated about three miles from the turbines at Loch Ness, has been formed by throwing a dam across the valley below the two natural lochs Garth and Farraline, the level of the former being raised 20 ft., and the latter 10 ft., a fine sheet of water 5½ miles long being thus created. An interesting part of the work consisted in diverting the river and draining a mountainous district, about 12 square miles in extent, into the reservoir. The total capacity of the reservoir is about 4,000 million gallons, which, it is expected, with the unequalised portion of the watershed of the river Foyers, will produce a continuous 5,000 horse power at the factory. The surface of the reservoir when full is 640 ft. above the sea level, and the impounded water will be discharged into the old outlet from Loch Garth, to pass along the old river course, being diverted into the tunnel supplying the turbines at a height of 400 ft. above sea level. As the height of the turbines is about 50 ft. above sea level an effective fall of 350 ft. is obtained. During the past year, as the reservoir works have been approaching completion, storage sufficient to keep the present machinery at work continuously has been provided, and the business of the British Aluminium Company in making aluminium, and of their tenants, the Acetylene Gas Company, in making calcium carbide, has been in active operation. The completion of the works places the company in a position still further to enlarge the output of the metal, the demand for which is rapidly increasing. The works, which were originally designed by the late Mr. Peregrine Birch, M.Inst.C.E., have been carried on and completed by his successor, Mr. W. Vaux Graham, M.Inst.C.E., the present engineer to the company.

SERIOUS FIRE IN GLASGOW.—Last week a fire broke out in the extensive premises of Messrs. W. and H. Hattrick, manufacturing chemists, in Renfrew-street, Glasgow, which caused damage estimated at about £30,000., and the death of four firemen, and serious injury to several others. The fire spread with great rapidity, and soon required the efforts of the entire strength of the fire brigade to cope with it. They did their work well, and two hours after the outbreak the fire was well in hand. At this moment a terrific explosion occurred, which shook the whole neighbourhood, and caused the complete collapse of the burning building. When this took place a number of firemen and salvage officers were within the building, mostly in the cellars and on the ground floor, and these latter men managed to get out to the street without sustaining any injury. But half-a-dozen firemen were on the top storey, and fell through to the ground floor with the wreckage, in which they were overwhelmed.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Gas-Producer Grates. J. H. Walker. 30,568. December 28.
Treating Spent Soda Liquors. S. Jaques. 30,574. December 28.
Manufacture of Paper. S. Jaques. 30,579. December 28.
Distilling Apparatus. W. F. Hogg. 30,595. December 28.
Evaporating and Concentrating Apparatus. J. McNeil and J. Lewkowitsch. 30,616. December 28.
Primary Batteries. J. W. Bullock. 30,619. December 28.
Treating Sewage. J. Grossmann. 30,629. December 28.
Refining Oil. W. A. Smith. 30,662. December 28.
Coke Ovens. A. M. Chambers and J. A. Worrall. 30,673. December 28.
Spreading Manures. A. Herbert and G. Truffaut. 30,683. December 28.
Apparatus for Treating Fats and Oils. C. G Hepburn. 30,684. December 28.
Electro-deposition. J. Greenwood. 30,744. December 29.
Yellow and Red Cobalt Pigments. T. Storer. 30,767. December 29.
Using Solid Disinfectants. L. Goelen. 30,801. December 29.
Treating Calcium Carburet. C. E. Yvonneau. 30,833. December 29.
Electrolytic Apparatus. G. C. Marks. 30,841. December 29.
Distilling Apparatus. J. Gallegos. 30,854 December 31.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Filtration of Water, Sewage, and other Liquids. J. A. Bell and A. G. Bell, both of 41, Corporation street, Manchester. Eng. Pat. 2,384. January 29, 1897.

The filter is composed of a steel shell containing sand or some other filtering medium. The bottom of the shell is covered with concrete, in which a number of rose-shaped collectors are embedded, so passing the filtered effluent into the main exit pipe. In the centre of the filter is a hollow shaft, carrying perforated radial arms connected therewith. The upper portion of this shaft is enclosed in a jacket, to which clean water under pressure is supplied, and can find its way through holes in the shaft down to the radial arms. To the lower portion of the jacket (which is cut off by a stuffing box and gland), the supply pipe for the sewage, and the exit pipe for the sludge, are fixed. When the filter is dirty, clean water is forced through the upper jacket into the hollow shaft, down to the radial arms, where it scours the sand and floats off the accumulated sludge, through the sludge cock already mentioned. The central shaft, which is mounted on ball bearings, can be rotated by hand or power during this process, thus effecting a thorough cleansing of the filter-bed. There are two figures.

Process of Manufacturing White Lead by Electrolysis. H. C. Woltereck, 23, Whitehall-street, New York. Eng. Pat. 19,179. August 19, 1897.

A hydrated carbonate of lead is formed by electrolysing a solution containing four parts of sodium acetate (or ammonium acetate because of the low voltage required), and one part of bicarbonate of soda, in enough water to form a 5 % solution of the salts. The anodes must be of lead, but the cathodes can be of any suitable material. The temperature should be kept below 25° C. Carbon dioxide is constantly blown in at the bottom of the cell. On passing the current, lead acetate is formed, together with free carbon dioxide, caustic soda, and hydrogen. These react, forming hydrated lead carbonate, sodium acetate, and water. The excess caustic is carbonated by the injected carbon dioxide. Lead, water, and carbon dioxide only have to be added continuously, the other products being regenerated. The voltage with soda compounds is 4 and for ammonium compounds 0·7 volts.

Improved Method of Using Indigo White for Printing. J. Grossmann, Harpurhey Chemical Works, Manchester. Eng. Pat. 13,215. May 28, 1897.

The use of bicarbonate of soda in white indigo printing is condemned. The presence of a considerable excess of caustic alkali is declared to be essential in order to produce a good blue economically from indigo white. But as such a strongly alkaline colour is very easily oxidised, stable reducing agents are added. A number of materials can be used, such as zinc and aluminium dust, glucose, or sulphite of soda, but by preference a mixture of glucose and zinc dust in the proportions of 4 to 10 of glucose, with 0·5 part of zinc dust is employed, this being used with 20 parts of indigo white and 76 parts of the special thickener described in the specification. Sulphite of soda is only used for very dark shades.

Improved Method of Hardening or Preserving Gypsum, or the like Hydrous Rock. A. A. Dickson, Spadina-road, Toronto, Canada. Eng. Pat. 22,741. October 4, 1897.

The gypsum, instead of being blasted, is cut or sawn. The blocks are roughed into shape and fixed in clamps to supply an even pressure to all parts. The blocks are then de-hydrated, allowed to cool in the open, and immersed in a bath of ammonia alum. Chrome and other coloured alums can be used if desired. The clamps are then removed, and the blocks can be polished, etc., in the usual way, giving a finished product free from cracks or other blemishes.

Manufacture of Nitrates. Dr. A. Knop, Rheinau, Baden, Germany. Eng. Pat. 4,747. February 22, 1897.

Thirty-one parts of coke are stirred into 120 parts of fused caustic soda, and the mass poured out to cool. Next 300 parts of sodium nitrate are melted with 120 parts of 90 per cent. caustic soda, well stirred, and the mass of coke and caustic added in small portions. The reaction proceeds with moderate frothing, and is complete in three to four hours. A high yield of nitrite is obtained. It is claimed that twice as much nitrite can be made in this way, in the same time, as by the lead method.

An Improvement in the Manufacture of Bay Salt. A. MacNab, 23, Great Winchester-street, London. Eng. Pat. 24,524. October 22, 1897.

In order to remove the deliquescent chlorides of magnesium and calcium, the crude salt crystals are steeped in saturated brine containing 1 to 2 per cent. of sodium carbonate for a day or so. The objectionable chlorides are converted into carbonates, which are removed by washing with strong brine. When the amount of magnesium and calcium salts is low the washing may be omitted, as the resulting carbonates are comparatively harmless.

THE FIRE HAZARDS OF OIL.

ON Tuesday, this week, Mr. George H. Hurst gave an address at the Accountants' Hall, Manchester, to the members of the Insurance Institute, on this subject. The speaker referred, first, to the group of animal and vegetable oils, of which tallow, palm oil, olive oil, and sperm oil were representatives. He pointed out that the fire hazard of such oils arose in two ways. The first was their inflammability, especially when they were spread over a large surface, for while the oils in bulk were not very inflammable, when they are spread over a large surface, as, for instance, a mass of cotton, a light applied at one point heats the oil above its burning point and it takes fire, a fact which the lecturer demonstrated. The group of mineral or hydrocarbon oils was then reviewed in conjunction with the methods of separating or preparing the oils from Scotch paraffin shales, and American and Russian crude petroleums.

These oils differ from the animal or vegetable oils in not being saponifiable, and, having no power of absorbing oxygen. They may, practically, be divided into four groups:—The naphthas, the kerosines or burning oils, the lubricating oils, and the paraffin waxes. The naphthas are light spirits used for the manufacture of paints and varnishes. They are highly inflammable, burning immediately a flame is brought into contact with them, a property which has a considerable bearing on fire risks whenever they are used. The burning oils have practically displaced the old Colza oils for illuminating purposes, and have, in fact, become the poor man's light. In the early days, owing to the accidents that occurred through the use of bad oil, the Legislature stepped in and laid down certain instructions as to the sale and use of petroleum products. They adopted the flashpoint as the criterion of safety, and now only those oils giving a minimum flashpoint of 73°F. Abel are permitted to be sold as lamp oils. Unfortunately, 73°F. is not a measure of the safety of a lamp oil, for under the conditions of the test it is only the temperature at which a mixture of oil vapour and air will *explode*. Now, 73°F. is much below the temperature of the oil in a lamp, while it is often below that of a dwelling room; hence there must be in lamps burning an oil of 73°F. flash test, an explosive mixture of air and oil vapour, which only needs contact with a flame to cause it to explode. What is still more unfortunate, the great bulk of the petroleum imported into this country has a flashpoint only just above 73° F.—very little above. It is no wonder, therefore, that we hear of so many lamp accidents. The makers sent the oil of as low a flash as they dared, in fact, oil of a character that the U.S.A. laws prohibited them from selling as burning oil. The lecturer said that insurance companies might do worse than support the movement now on foot for raising the minimum flash point to 100°F., and mentioned that with oils which have a flash point above 100°F. accidents hardly ever occur. He then spoke of the use of oils in wool spinning, showing how fire risks might arise, and offering some suggestions as to the character of the oils that might be allowed to be used. In conclusion, the lecturer dealt with the oils employed for lubricating machinery.

Our Book Shelf.

THE EARLY HISTORY OF CHLORINE. Alembic Club Reprints No. 13. 48 pp. Edinburgh: W. F. Clay. 1897. 1s. 6d. net.

This reprint leads up to the researches of Davy (No. 9), by giving salient extracts from the writings of Scheele, in 1774; of Berthollet in 1785; Guyton de Morveau, in 1787; and of Gay-Lussac and Thenard, in 1809. Morveau's memoir is of interest chiefly on account of its giving the historical authority for the term "radicle." A point is made in the extracts from the Gay-Lussac and Thenard memoir of emphasising Davy's claims to having first declared chlorine an element. The passage in Gay-Lussac's memoir now under review which seems to have created the idea that M. Thenard first declared the elementary nature of chlorine is negatived by a parallel statement of Davy's views and those of Gay-Lussac and Thenard, published in their "Physico-Chemical Researches," in 1811

RESEARCHES ON MOLECULAR ASYMMETRY. Alembic Club Reprints No. 14. 46 pp. Edinburgh: W. F. Clay, 1897. 1s. 6d. net.

The two lectures which are here re-produced were given by Louis Pasteur, in Paris, in 1860. They are most interesting and instructive reading, this statement being justified by the personal reminiscences of the great Biot, that are recorded, and the soundness of Pasteur's own work. In point of fact, though 37 years have elapsed, Pasteur's method of separating optical isomers is still the only one known. What is more, his theoretical speculations as to the cause for the difference between such isomers practically hold good to-day, when supplemented by the later work of van't Hoff and Le Bel.

DIARIES AND CALENDARS:—*Sunlight Pocket Diary*, 1898, is neatly got up in soft red leather boards. A collection of general *data* and tables of direct interest to grocers and produce merchants precede the diary proper, to which is added one page a month for cash notes. In addition to the usual extra memoranda pages, there is special space allotted for addresses and a useful innovation in the form of memos. of things lent, with rulings for the date, article, and name of borrower. *Diary for the Brewing Room*, 1898:—This hardy annual, issued by Messrs. Boake, Roberts, and Co., contains all the usual features, the literary portion including articles on the carbohydrates of barley and malt, and the filtration of water. "*Oils, Colours and Drysalteries*'" *Year Book and Diary*, 1898, is neatly got up in terra-cotta cloth boards It contains a good collection of recipes, as well as several good technical articles such as simple test for oils, paints, etc.; how to mix colours; watch makers' oils and such like. The diary is of the three days to a page type, and contains *no* advertisements. A directory of trade marks is included in the year book portion. *The Ironmongers' Diary*, 1898, as usual, makes its appearance in black cloth boards. The literary portion is mainly made up of technical notes, tariffs, and various forms of calculators. The patent laws of the various counties are summarised. One of the best articles is on aluminium. The notes on nickel plating are also valuable. *Calendars, etc.*—We have received several, many of which present special advantages, but the most interesting is the quotation almanack compiled by Mr. H. Simon, of Simon-Carves, Ltd. The date block is neatly mounted on an imitation ivory slab, so that it can either stand or hang.

GOLD OUTPUT IN THE RAND.

THE output from the Rand district during December, as cabled by the Chamber of Mines, of the South African Republic, amounts to 310,712 ozs., and shows an increase of 13,588 ozs. as compared with the previous total, and an increase of 104,195 ozs. as compared with the corresponding month of 1896. The following table gives the monthly returns since the beginning of 1894:—

	1894.	1895.	1896.	1897.
	oz.	oz.	oz.	oz.
January	149,814	177,463	148,178	209,832
February ...	151,870	169,295	167,018	211,000
March	165,372	184,945	173,952	232,067
April	168,745	186,323	176,707	235,698
May	169,773	194,580	195,008	248,305
June	168,162	200,941	193,640	251,529
July	167,953	199,453	203,873	242,479
August	174,977	203,573	213,418	259,603
September ..	176,707	194,764	202,561	262,150
October	173,378	192,652	199,889	274,175
November ..	175,304	195,218	201,113	297,124
December ..	182,104	178,428	206,517	310,712
Total ..	2,024,159	2,277,635	2,281,874	3,034,674

Legal Intelligence.

CHANCERY OF LANCASHIRE.

(*Before Vice-Chancellor Hall.*)

HARDMAN *v.* LOCKWOOD.

AT the Manchester Assize Courts on Tuesday, Mr. Maberly appeared for the plaintiffs in the summons of Hardman *v.* Lockwood, asking the court for leave to amend. He stated that the plaintiffs carried on business as distillers and manufacturers of the products of gas tar at Miles Platting, and the defendants carried on business as distillers of gas tar in the same district. A contract for the delivery of a particular sort of gas tar had not been carried out, and the plaintiffs, in their original statement of claim, asked for specific performance of the contract, or, in the alternative, damages, which were put at £7,500. They now wished to strike out the claim for specific performance. The Vice-Chancellor remarked that it had been a Chancery action, but it was now proposed to turn it into a common law one. Mr. Grant, on behalf of the defendants, said he was willing the action should be transferred if his Honour ordered the plaintiffs to pay the costs occasioned by the proceedings in the Chancery Court. The Vice-Chancellor said the order would be leave to amend in the manner proposed, and thereupon transfer the action to the Queen's Bench Division of the High Court; the costs thrown away ought to be the defendant's in any event. Mr. Maberly asked for the costs of a summons for dismissal on the ground of want of prosecution, but the Vice-Chancellor said, though the summons was not quite right, he thought the proper order was no order as to costs upon that.

INDUSTRIAL REVIEWS OF 1897.

Indigo.—The outlook, after a succession of large Bengal crops, rendered it impossible to dispose of the year's over-production of 1896-7 in Calcutta without breaking down prices materially at the end of the season, as the crop proved to be much in excess of the estimate (viz., 158,900 maunds against an estimate of 145,000); hence large consignments, especially of native produce, were shipped to London for realization in the hope that the short crop anticipated for this season would cause such an improvement in prices on this side during the year that a satisfactory result would be obtained. These circumstances account for the very excessive supply received from Calcutta, the landings in London from that port in 1897 having been the largest since the year 1876. The imports from Madras have been very moderate; but still, our market has been so greatly overloaded all through the year, and trade has at the same time been so dull, that buyers have been most cautious and a weak tone has prevailed continuously, though the total decline in prices during the year has not been large, holders having given strong support at each sale by withdrawing largely rather than submit to any material reduction in prices. The falling off in deliveries has been chiefly in those for export, the Continental trade having been bad all through the year. On the other hand, consumption in Great Britain has apparently been good, especially in the woollen districts, the falling off shown in the figures being compensated for by the increased quantity of Bengal that has been used. It must also be remembered that fully 1,500 to 2,000 chests now go into English consumers' hands annually without passing through the London warehouses, and therefore Great Britain probably consumes more than any other country in the world. With rather moderate supplies of Spanish, the market has been a fairly good one for all desirable qualities, but ordinary sorts, in sympathy with the low prices ruling for East India kinds, show some reduction in value.

Oilseeds.—The fluctuations in the value of linseed have been moderate, heavy stocks of oil having checked any material advance. The imports into London have been the smallest for the past seven years. January opened with an improved demand, short crops being reported in Argentina and drought in India; Calcutta in near positions changed hands from 32s. 3d. to 33s. 9d.; Plate prompt shipment sold at 30s. 6d. In March, with a heavy fall in linseed oil, values declined to 30s for April-June Calcutta, and 28s. 9d. for Plate, recovering in July upon the improvement in oil and South Russian shippers repurchasing their contracts; Black Sea for shipment to Hull touched 35s., and Calcutta to London 35s 6d. In the autumn, with light shipments from India, values ranged between 34s. and 35s. 3d. for Calcutta seed, 32s. 6d. and 34s. 6d for Black Sea to Hull; Plate sold from 31s. 9d. to 32s. 9d. December-January shipment to Hull. Cottonseed had a steady trade, and for a short time in the autumn, high prices were paid owing to scarcity. The year opened with passage at £4. 15s., in March prices dropped to £4. 4s. 9d., and in June arrived seed

touched £4. 6s. 3d., when, with light shipments, the market steadily advanced and in September afloat made £5. 8s. 9d., again declining with free of new crop to £4. 13s. 9d , on passage and for shipment.

Shellac.—The year just closed has been very unsatisfactory. Large shipments from Calcutta, advised in January, were reported to be owing to the dearness of money ruling in India. During the first five months, with increasing stocks, prices were on one continual down grade, notwithstanding it being agreed to hold the public auctions fortnightly instead of weekly. Not much speculation has taken place during the year, and what has been done has not turned out satisfactory. In June sales were reported of about 10,000 cases for forward delivery, which are still safely nursed ; "Bears" have found it difficult to "cover in" when necessary, and more frequently than otherwise at a loss on the transactions. Rumours have been received, as customary, of the various sticklac crops being short, to which little attention has been paid until recently, when private advices to hand seem to confirm that they are not so large as usual. With higher Indian exchanges the market closes with a better outlook.

Cleveland Chemicals.—Only a moderate year was experienced in chemical trades on Teeside. Great shipping demand existed for salt for Australia and India, and to Dec. 28th deliveries reach 176,705 tons. The various processes of which the salt deposits form the basis are being developed Arrangements for the safe delivery of petroleum in the River Tees have been much under discussion during the year, and several vessels carrying large quantity in bulk have been dealt with. The refining of the petroleum on Teeside is becoming an important addition at the chemical works. From the Tees 16,503 tons have been shipped of various kinds of chemicals, and 56,626 tons of basic slag, both totals being greatly above the quantities of last year.

Newcastle-on-Tyne.—Only to a slight extent has the chemical industry on Tyneside participated in the general trade improvement. But, compared with recent years, there can be no question that the demand has been better, and prices steadier, though the improvement in the latter has been mainly due to artificial regulation on the part of the United Alkali Company, who now own practically all the works on the Tyne. The first half of the year was featureless, but in the autumn business improved perceptibly, and in October prices reached their highest level, when the following figures were quoted :—Bleaching powder, £6. 10s. to £7. 10s. ; caustic soda (70 per cent.), £7. 10s. to £7. 15s. ; soda crystals, £1. 17s. 6d. to £2 15s. ; soda ash (52 per cent.), £4. 5s. ; sulphur, £5. Values at the close of the year are somewhat below these figures. Production and exports have been well up to the average quantity, but it cannot be denied that the industry here has lost its pristine vigour, and is slowly departing from the river.

Tallow.—The market during the past year was remarkable for a steady demand throughout, and at the same time an almost constant disposition on the part of importers to meet the market. The losses incurred through a contrary policy in the previous year no doubt largely influenced sellers to pursue this course. Home tallow was not very plentiful at any time ; nevertheless the quantity exported from London showed some increase, while, on the other hand, the quantity of colonial taken by the home trade was of smaller dimensions. To a great extent the buyers for stearine candle making, and to a certain extent for edible purposes, outbid the soapmakers, who are more than ever content to use softer and less durable substances Supplies of colonial were on about the same scale as during the previous year, but the demand for export showed a considerable improvement and resulted in an important reduction in the stock in London The increased demand came chiefly from Russia. During the first six months prices gradually and almost imperceptibly declined. In August some advance took place, which was followed by a relapse in September, but in November and December quotations have advanced to a rather higher range than they stood at when the year opened.

Tanning Materials.– In mimosa bark a moderate business has been done, with slight fluctuations in price. About the middle of the year there was a very quiet trade and a drop of 10s. to 15s., but shortly afterwards an improvement set in and this fall was more than recovered. Gambier was a good market in January, with an upward tendency, and by the end of the month considerable sales were made at 15s. to 15s 6d. for spot ; these rates, however, were not maintained. After February the demand was much more limited and prices declined, until in May the reduced figure of 13s. to 13s. 3d. was reached. From that time there were continual fluctuations, and the year closes with little business and quotations 12s. 3d. for spot and a fraction less for arrival. Of Valonia some considerable sales were made for forward delivery at £10. to £10. 5s. for good Smyrna, after which only a quiet trade prevailed for the remainder of the first half of the year, with very little alteration in values. Good and fine qualities were most sought. From Midsummer forward the market hardened in Smyrna, and merchants here looked for advances, but the favourable prospects for the new crop made buyers very reluctant to respond. The business transacted during the last month or two has been at full rates, and good Smyrna may now be quoted £10. 15s. to £11.

THE SALFORD SEWAGE EFFLUENT FILTERS.

AT the last meeting of the Salford Town Council, it was stated in the minutes of the River Irwell Conservancy Committee that at a meeting on December 15th, it was resolved "that, seeing that the experimental cinder filters have now been working for a period of more than four years, and have demonstrated to the satisfaction of the Committee the efficiency of the principle on which they work, the time has now arrived when it is no longer necessary for experimental purposes to continue to work the same, and that they be stopped working accordingly." At a subsequent meeting, however, this resolution was rescinded.

Answering Mr. Yearnshaw, Mr. Alderman Walmsley, chairman of the Committee, said the filters had been in operation for a very considerable time, possibly longer than any other filters in the kingdom, and it had been proved that with ordinary care the life of such filters was much greater than was ordinarily supposed. As persons were coming from all parts of the country to see the filters, it was thought desirable that they should remain in operation until the borough engineer's scheme had been completed. The cost of working the filters was only £1. per week.

Mr. Yearnshaw said they had been told before that the expense was £3. per week, and he objected to this sum being expended for the benefit of outside authorities.

Mr. Foden supported the objection, and in doing so denied that the filters had been worked continuously.

Mr. Hale said it was no doubt true that they had not been worked continuously. They had at times got choked up, and it had been necessary to give them a rest. But apart from that the filters had been worked continuously.

Mr. Jackson said he could not support the River Irwell Conservancy Committee's minutes until he had received some satisfactory assurance with regard to the fact that the men working the filters were being worked at the rate of twelve hours per day.

Mr. Alderman Walmsley assured Mr. Jackson that if any of the men were working twelve hours per day he would see that this state of affairs was remedied.

The minutes of the Committee were then adopted.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THERE was a full attendance at the last meeting of this section, held on Friday last week, at the rooms of the Chemical Club. In the half-hour devoted to such matters, Dr. Gerland brought a greatly-improved Westphal balance before the notice of the members. The balance is made by Kuhlmann, and will be found very handy for taking the gravity of liquids with precision and ease. Some samples of Chinese wood oil were then shown by Mr. G. H. Hurst, and proved to be interesting, owing to this oil having the characteristic property of going solid when heated to 500°F. The mass so formed is similar to beeswax in appearance, and of much the same consistency. It is insoluble in ether, alcohol, carbon disulphide, and all the usual solvents.

The business of the evening was a paper by Mr. J. Carter Bell on "The Oxygen Test for Sewage Effluents." The Chairman (Mr. G. E. Davis), before calling on Mr. Bell for his paper, explained the circumstances under which the paper came to be read, and also stated that Mr. Scudder, one of the chemists to the Mersey and Irwell Joint Committee (whose method of testing was under discussion), was unfortunately unable to attend, having fallen a victim to a serious attack of rheumatic fever. It was, therefore, decided to discuss Mr. Bell's paper only so far as the value of the oxygen test *per se* was concerned, and to leave all points in the Bell-Scudder controversy strictly alone until Mr. Scudder could be present in person. At this juncture, Dr. Hewitt (a member of the Joint Committee) rose and appealed to the meeting to adjourn the whole matter until Mr. Scudder could attend, and answer the attack that had been made on him, and which he (Dr. Hewitt) presumed would be renewed by Mr. Bell's paper. The Chairman explained that had Mr. Scudder himself undertaken to read a paper on the oxygen test, in response to the invitation extended to him by the Section, he would have been the centrepiece, as it were, and, failing his paper, the matter must have stood adjourned. As he had refused point blank to read a paper, Mr. Bell had undertaken to open the ball, and a number of chemists had come specially prepared to discuss Mr. Bell's paper. It was to be regretted that Mr. Scudder could not be present, but it would scarcely be justifiable to prevent all the other chemists who were present from discussing Mr. Bell's paper because one member was unfortunately unable to join in the discussion owing to illness The vote was then taken, and Dr. Hewitt's amend-

ment lost by about 9 votes to 16. Thereupon Dr. Hewitt immediately left the room. Mr. Bell then read his paper, in which he explained how his oxygen tests on the Salford sewage effluents had differed from those of the Committee's chemist by 40%, 50%, and even 100% in several cases. After considerable trouble he had been able to learn exactly how the Committee's test was done. The method was as follows :—

JOINT COMMITTEE'S TEST.—The test is applied for three minutes and four hours at *about* 60° F.

The solutions required are (1) Dilute H_2SO_4 1 vol. pure acid to 3 of Aq. Dist., and the whole tinted with $KMnO_4$. (2) Dissolve 0·395 grams of pure $KMnO_4$ in a litre of Aq. Dist. (3) Dissolve 4 parts by weight of sodium hyposulphite in a litre of Aq. Dist. (4) Potassium solution, 1 in 10. (5) Starch water. *The Test* :—70 cc. sewage effluent in 5·8 oz. stoppered bottle; add 10 cc. of H_2SO_4 and 50 cc. of the $KMnO_4$ solution. If during the four hours the colour fades too much, add another 50 cc. $KMnO_4$ to always ensure an excess. At the end of the four hours add a few cc. of KI solution, titrate with hypo. until iodine is nearly discharged, and finish with starch. For the three minutes' test (by direct titration) add the $KMnO_4$ direct from the burette to 70 cc. sewage effluent and 10 cc. of H_2SO_4, the colour of the $KMnO_4$ forming a sufficiently delicate indicator. N.B.—A blank on 70 cc. Aq. Dist., 10 cc. H_2SO_4, and 50 cc. $KMnO_4$ is done every day to standardize the hyposulphite

MR. BELL'S TEST.—The solutions used are substantially the same for all except the hypo., of which 1 gram per litre is taken. The $KMnO_4$ is 0·4 grams per litre (as against 0·395). The starch water is prepared by adding 300 cc. of *nearly* boiling water to 1 gram of "Tous les mois" starch. The swollen granules are allowed to settle in a narrow cylinder. Only the resulting clear, supernatant liquid is used, and is found to be very sensitive. *The test* is quite different: 20 cc. of effluent are diluted with 50 cc. of Aq. Dist. to 70 cc.; to this 10 cc. of H_2SO_4 and 10 cc. of $KMnO_4$ solution are added in a wide mouthed, corked dwarf flask of about 200 cc. capacity. Tests are made for 15 minutes and four hours at 60° F.

Mr. Bell showed that the oxygen figure rose the longer the sample was kept before testing, and also that the end reaction was not so sharp with 70 cc. sewage effluent, and that is why he diluted.

As the Committee condemned all waters showing more than 1·0 grain per gallon of oxygen absorbed, the value of the test as a criterion of purity was next referred to, and Mr. Bell showed that Manchester tap water containing one grain of carbolic acid to the gallon showed a higher oxygen figure than an actual sewage effluent. The test is also used as a means of judging whether an effluent will be subject to secondary decomposition, and three samples of effluent taken by the Committtee's inspector were passed round for inspection. They had been condemned on the absorbed oxygen test, and yet after four and nearly 12 months keeping showed not a trace of secondary decomposition, and did not smell. In the course of the discussion Dr. Pankhurst dealt with the test from a forensic view-point, and said that the public took the test as a judge between harmless waters and those liable to putrify, and yet it was now shown that as a judge it was quite incompetent. Along with several other speakers he pleaded for a conference of chemists to arrive at something definite. Dr. Grossman described experiments which he had made, in which effluents absolutely sterilised by sulphurous acid showed a higher oxygen test than a plain effluent. from which over eight million bacteria per square centimetre could be cultivated. Mr. Thomson produced some interesting figures on the effect of dilution, as also did Mr. Bannes, who showed as well the effect of varying temperatures. The figures obtained by Mr. Thomson (and Mr. Shenston) were striking. He had to work with a dilute solution of urine instead of effluent, as he could not get a sample on applying to the Salford purification works. This weak urine solution, tested by the absorbed oxygen test, 1·27 grain per gallon. On diluting with twice its bulk it still tested 1 076, and on diluting to four times its bulk 1·014 as against 0·32, as might have been expected. Mr. Grimshaw thought much allowance should be made for a test that afforded a speedy and handy means of comparison, and, provided the history of the sample was known, as was the case with the Joint Committees thought it was not a test to be discarded. Mr. Pettigrew (one of the chemists to the Joint Committee) also spoke, but as he trespassed largely upon the personal ground which had been so carefully avoided all through the discussion, he was finally called to order by the chairman. Several chemists present refrained from taking part in the discussion owing to the absence of Mr. Scudder. The Chairman, in summarizing the position, said what they wanted to know was what the test meant. If it was to be used as a means of comparison one definite method must be decided on and rigidly followed. An explanation was also needed for the resuscitation of the old three minutes direct titration test so unreservedly condemned by Dr. Tidy in 1879. The meeting closed with a vote of sympathy for Mr. Scudder in his painful illness, and the hopes of his fellow chemists for a speedy recovery. The discussion stood adjourned, so that Mr. Scudder could read all that had been said, and prepare an answer at his leisure.

NITRATE OF SODA IN 1897.

THE year's deliveries from the United Kingdom ports reach about 107,000 tons, and those from continental ports (including Harburg) about 870,000 tons, against respectively 105,000 and 840,000 tons last year, 115,000 and 778,000 tons in 1895, 117,000 and 768,000 tons in 1894, and 102,000 and 687,000 tons in 1893. Stocks in the United Kingdom ports are about 21,000 tons, and in continental ports (including Harburg) about 225,000 tons, against respectively 23,000 and 325,000 tons last year, 21,000 and 154,000 tons in 1895, 16,000 and 94,000 tons in 1894, and 9,000 and 95,000 tons in 1893. Stocks in the interior of Germany in dealers' hands are reported to be in excess of those at date last year, but those in consumers' hands are believed to be proportionately less, the deliveries from the ports since the close of last spring being only slightly in excess. The consumption in the United States, while slightly less from the eastern ports, shows an excess from California, the total thus slightly exceeding last year's; the approximate figures are 110,000 tons in 1897, 105,000 tons in 1896, 110,000 tons in 1895, and 95,000 tons in each of the four preceding years. Their visible supply, stock and afloat, is about 45,000 tons, against 40,000 tons last year. A slight increase in direct shipments from Chili to sugar colonies, South Africa, and other countries, has to be noted, the total reaching about 15,000 tons in 1897, 12,000 tons in 1896, and 8,000 tons in 1895. From 1880 to 1890 the world's consumption increased from under 200,000 tons to about 930,000 tons, while price declined from 16s. to under 8s 6d. per cwt. In the last seven years the increase has been from about 930,000 to 1,100,000 tons, with a range of price of 9s. 6d. to 7s. 6d. per cwt. Unfortunately, the increase in producing power during the same seven years has been nominally trebled, while effectively probably doubled by the unreasoning optimism and rivalries of producers, with the disastrous results now being experienced by them The total exports from all the nitrate ports during 1897 are estimated at about 1,040,000 tons, against 1,075,000 tons last year, 1,210,000, 1,075,000, 925,000, and 795,000 tons respectively from 1895 to 1892. Production during the year has exceeded shipments by about 75,000 tons; consequently a larger stock to about this extent remains in producers' hands. The combination for restricting production and shipments, which was originally arranged till March, 1899, was broken, through dissensions at middle of October.

The visible supply in Europe, which might probably be available during next four months, consists of stocks in ports under 250,000 tons, and afloat about 370,000 tons, or a total of about 620,000 tons, against 690,000, 685,000, 505,000, and 445,000 tons respectively at December, 1896, to 1893. The supply during last four springs (1897 to 1894) was increased by shipments by steamers in January and February of 27,000, 40,000, 75,000, and 80,000 tons; so far, for the next two months the quantities arranged for these months by regular line and specially-chartered steamers are understood to reach about 55,000 to 60,000 tons, and increase on this is now considered improbable. Deliveries in Europe, January to April, were in 1897 560,000 tons, with average spot price 7s. 10½d., in 1896 600,000 tons, with price 7s. 9d, in 1895 505,000 tons, with price 8s. 3d., in 1894 500,000 tons, with price 9s. 9d., and in 1893 390,000 tons, with price 9s 9d. per cwt. The value on spot at date last year was 7s 9d. per cwt., and to-day's price is 7s. 4½d. per cwt. The lowest points touched were 7s. 1½d. in May and October, and the year's fluctuations have been from 7s. 1½d. to 8s. 1½d. per cwt. From the end of June fluctuations have not exceeded 6d. per cwt., or from 7s. 7½d. to 7s. 1½d. per cwt., and refined nitrate has commanded from 1½d. to 6d. per cwt. over the price of the ordinary. For spring delivery a larger quantity than at date last year has already been contracted for by dealers and consumers, and the quantity held on speculation is on a greatly reduced scale. Forward positions for spring arrival have commanded a premium of 1½d. to 3d. per cwt. throughout the half-year. Freights have ruled at from 16s. per ton in May to 31s. 3d. per ton in November and 25s. in December, as compared with 27s. 6d. in March to 16s. in December last year and 22s. 6d. in December of the two preceding years Exchange has been steady at 17½d. to 17¾d., and the cost of nitrate has ranged from 5s. 10½d. in January to 4s. 9d. per quintal in December, as contrasted with 5s. 9d. in December last year and an average of over 5s. 7½d. to 6s. during the preceding two years The shipment duty remains at 2s. 4d. per quintal and the railway freights to shipping ports at 5d. to 7d. per quintal. The result to producers generally, particularly in the past few months, is likely to prove disastrous, and many oficinas have already temporarily ceased working, their actual outlay to mine and refine being in excess of current net values, irrespective of the exhaustion of grounds, which in very few cases, owing to high capitalisation, can be appraised at less than 1s. to 1s. 6d. per quintal of nitrate extracted.

PETROLEUM PRODUCTION.—The European Petroleum Company, Limited, announces that, by a telegraphic advice received from the Baku manager, it is informed that the production for the past week was 144,437 poods, or 2,329 tons.

Selected Correspondence.

WATER GAS.

To the Editor of the Birmingham Daily Post.

SIR,—By the light of Colonel Cayzer's letter, this question may be summed up as follows:—Carburetted water-gas kills by the insidious action of its poisonous ingredient, namely, carbon monoxide. Coal-gas also contains carbon monoxide, in proportion varying from 4 to 10 per cent. Carburetted water-gas contains 32 per cent., and is proportionally more highly poisonous. The gas which caused the two deaths in Garston and the other dangerous cases occurring there was carburetted water-gas, not acetylene. The deficiency in the Birmingham gas supply is said to be made up by the use of water-gas. When this use of water-gas is made, the gas mains contain this deadly water-gas. The vital question remaining to be answered is: How will the Birmingham people fare should an escape of this deadly gas enter their dwellings?

UPPER SALTLEY.

THE CULTIVATION OF SUGAR BEET.

To the Editor of the Birmingham Daily Post.

SIR,—At a time when the sugar bounties and countervailing duties are being freely discussed in the press and through the country, it has been thought desirable to make a series of experiments as to the possibility of growing sugar beet in these islands, and I venture to ask for a few lines of your valuable space to solicit the assistance of some who are interested in our home agriculture. It is well known that in other countries as far to the north as Great Britain, sugar beet is a large and most valuable crop, benefiting all classes—landowners, farmers, and labourers alike, and it is believed by scientists, who have devoted their attention to agriculture, that it could be grown here, with manifest advantage to a distressed and depressed interest.

If this be capable of proof as I believe it to be, there is no Government that could resist legislation which would, on the one hand, largely assist the West Indian planters and labourers, for whom so much sympathy is justly felt, and who are our own kith and kin, our own loyal fellow-subjects of the Queen; and, on the other hand would cause millions of money to be spent amongst our home agricultural population.

With a view to thoroughly testing the growth of sugar beet, a scheme of county prizes has been devised—*i.e.*, Lord Windsor in Shropshire, Mr. W. T. Lawrence, M.P., in Wiltshire, and myself in Warwickshire, have offered small prizes (£5. and £2. 10s.) for the best roots grown within the limits of those counties in 1898; we supplying French and German seeds, and undertaking the analysis of a certain number of roots in the autumn.

I venture to appeal, through your columns, to other gentlemen who may be willing to help us by offering similar prizes, so that the experiment may be made as widely as possible. I should be glad if it could be tried in at least twelve counties in England, Scotland, and Ireland, so that we may establish definitely the fact whether the beet is a suitable crop for these islands. I will willingly send the necessary particulars to any gentlemen communicating with me, and I can assure them that they will find the farmers eager to assist them.

I ought to add that, in addition to these experiments, others are being made by a gentleman of wide experience in the growth of sugar beets, Mr. Stein, of Messrs. Crosfield, Barrow, and Co., sugar refiners, who is independently issuing seed with the same object in view, and has 200 or 300 applications from all parts of the country.

VICTOR MILLWARD.

The Holloway, Redditch, Jan. 10th.

DYNAMITE EXPLOSION.—A dynamite explosion occurred on Monday at Porthcawl sewerage works, at the village of Newton, a mile outside of Porthcawl, Glamorgan. Shortly before half-past eight the men, owing to the frost, were tempering the dynamite cartridges over a fire, in a grate called "a devil close." Through some cause at present unknown a cartridge exploded with terrific force. The explosion was heard throughout the neighbourhood, and nearly every window was smashed. The bars of the grate were bent into various shapes, and one of them was found two hundred yards away. Four men were seriously injured.

THE INSTITUTION OF MINING AND METALLURGY.—The fourth ordinary meeting of the seventh session will be held on the evening of Wednesday, 19th January, in the Lecture Theatre of the Geological Museum, Jermyn-street, London, S.W., at eight o'clock, when the following papers will be read and discussed:—(1) "Notes on the Action of Cyanogen on Gold," by Mr. James Park, M. Inst. M.M.; (2) "Mexican Methods of Mining," by Mr. S. B. Newall, M. Inst. M.M.; (3) "On the Successful Treatment of Tailings by the Direct Filling Process on the Witwatersrand," by Mr. F. Cardell Pengilly, Assoc. Inst. M.M.

MANURE MATERIALS IN 1897.

THE business of the past six months may be said to have been satisfactory in the main, for, whilst in some departments it has been disappointing, there has in others been distinct improvement, and the year has closed with a brighter outlook than has been experienced for some time past. Manure manufacturers, having for two years past been working themselves down to a more hand to mouth basis in purchasing, were under the necessity of buying phosphatic material more extensively than was the case in the corresponding period of 1895 and 1896, and, prices being tempting, they availed themselves of the opportunity freely. There is therefore a more hopeful feeling amongst agriculturists, and, the weather having been favourable, there has been larger autumn sowing than has been the case in recent years.

Mineral Phosphates.—There has been a good business in all grades, both for the United Kingdom and the Continent, though the largest demand for high grade rock has come from the Continent and the Baltic. Owing however to keenness of competition for orders, in the first place, and to advanced freights later, very little profit can have gone into the pockets of raisers; but the business has relieved them of accumulated stocks, and with prospects of easier freights they may now look for moderately remunerative working.

The stock of 75/80% Florida rock at the mines is now a limited quantity, and, owing to closing down of all the weaker concerns, the handling is now mainly in the hands of about four firms, who are confident of securing better prices, notwithstanding the competition of Tennessee and other high grade rock. 5⅜d. up to 5⅝d. per unit was freely paid during the autumn months for United Kingdom ports, and at the close 6¼d. per unit is about the value, though so far buyers refuse to pay the price. Equivalents of the former prices have been freely paid by Continental buyers, and figures corresponding with the latter prices, having regard to higher freights, are quoted at the end of the year.

Before the advance in freights extensive sales of South Carolina river rock were made at 4¾d. per unit, and even at as low at 4½d. per unit, c.i.f. to U. K. ports, but the stoppage of one of the raising concerns later left the business practically in the hands of one firm, and the price became 5½d. per unit—the closing quotation. Algerian 58/63% was sold in quantity at 4¾d. per unit, but the removal of the worst competition in South Carolina led to common action on the part of the principal raisers of Algerian, and the price became 5⅛d. per unit. Other descriptions of rock have also been sold freely, and prices have been on about the level of the above quotations for similar grades.

River Plate Bones.—The imports for the year have been less than half of those for any year since 1893, there being nothing in prices to induce shipments until towards the close, and the United States having been all along the better market. There has also been a falling off in shipments to the Continent, but not to an equal extent. The price remained about £3. 12s. 6d. per ton until September, when there was a slight improvement. Late in November there was a further advance to £3. 16s. 3d. per ton, and at the close of the year the nearest value was £3. 18s. 9d. to £4. per ton. No doubt the falling off in demand for high class compounds for export has told against the sustained use of bone material, but cheap sulphate of ammonia until recently has been an important factor in the case, and the competition of East India bone meal was prejudicial to prices from July to September. The two latter factors have not pressed so keenly in the closing months of the year, nor are they likely to do so in the near future. It is, however, to be feared that the demand for high-class compounds has seen its best days, but the reduced supply of bone material will probably prevent any serious decline in value over the coming season.

East Indian Bone Meal and Crushed Kurrachee Bones.—In July and August supplies being abundant, sales are reported to have been made at as low as £3. 7s. 6d. per ton, to arrive, and certainly considerable business was done at about £3. 10s. per ton. Very naturally buyers availed of so tempting an opportunity freely, and by the middle of September spot was cleared at up to £3. 15s. per ton. £3. 17s. 6d. per ton was then asked, for shipment, but buyers did not respond, and in October £3. 15s. per ton was again accepted. In November there were sales successively at £3. 16s. 3d., £3 17s. 6d. and £4 per ton, and at the end of the month £4. 5s. per ton was the asking price. In December £4. 5s. per ton was paid, but the price checked business, and at the close £4. 3s. 9d. per ton was probably the nearest value. Imports for the twelve months have been on about the level of those for previous years. Crushed bones have not come in any large quantity, prices required being prohibitive. Parcels in stock have been sold out at £3. 15s. to £4. per ton.

Sulphate of Ammonia.—Has been working itself into a much better position, although prices at the close of June remained about on a level with those current early in January. Production everywhere has been sold as it has become available, and, in addition to that, accumulated stocks, especially in London, have been steadily reduced, until at the

end of June they have become a quiet manageable quantity. The half year just closed has been paying up for past mistaken policy on the part of the makers, and yet prices have been maintained. The explanation lies in the fact that consumers have realised the relative cheapness of this material, and there has been a further large transition from the use of nitrate of soda to the use of sulphate of ammonia. Thus the increasing Continental production has been absorbed; exports, January-June, are some 10,000 tons in excess of those during same period 1896; and home consumption has taken a largely increased quantity. The market closes firm at £7 10s per ton f.o b. East Coast ports, and at £7. 12s. 6d. per ton f.o b. Liverpool. Buyers abroad have for some time been anxious to purchase ahead at present level of prices, unsuccessfully. Business has been done at a premium of about 3s. 9d. per ton July-December delivery, but makers are for the most part quoting prohibitive prices in the forward position, or else refusing altogether to offer. It is felt that sulphate of ammonia is still relatively much cheaper than nitrate of soda, and that a further restriction of shipments of the latter article must inevitably improve the value of both nitrate of soda and sulphate of ammonia. Hence the firm attitude of sulphate producers.

It will be remembered that during July/December, 1896, there was practically no increase in shipments as compared with those over the same period in 1895, and that in consequence of this absence of elasticity the lowest prices on record were reached in October, 1896. Within the past six months there has been an increase of fully 15,000 tons, as compared with July/December, 1896, and at the close of the year the quantity left in the country is a bare working stock. Values at the end of June were about the same as those at the beginning of the year, though in the meantime stock had been persistently pressed upon the market; but since June there has been an advance of 30s. per ton, all round, closing prices being £9. 2s. 6d per ton, f.o.b. Liverpool, and £9 per ton, f.o.b. Hull, as against £7. 12s. 6d. and £7. 10s. per ton, f.o.b. Liverpool and Hull respectively, at the end of June. It may be argued that advanced prices must check consumption of sulphate of ammonia in the coming manure season, and it must be admitted that there is no longer the pressing inducement to use it in preference to nitrate of soda that there was twelve months ago, but sulphate of ammonia is still relatively the cheaper article *per unit*, and what is of immense importance in the consideration is that current production only will be available, instead of current production plus unwieldy stock, as was the case during the spring of 1897. Hence it seems to us that demand will at least equal supply, and that higher prices may be looked for over the spring months.

Miscellaneous Nitrogenous Material continues to be scarce, the bulk of the River Plate production having gone to the United States, where better prices have been obtainable than either in the United Kingdom or on the Continent. Home production of *dried blood* has sold freely at 7s. up to 8s. 3d. per unit of ammonia, f.o.b. Liverpool, and parcels of *River Plate* arriving have met with a ready sale at 6s. 10½d. up to 7s. 10½d. per unit of ammonia, ex quay Liverpool.

Trade Notes.

DOWLAIS IRONWORKS AND COLLIERIES.—It is reported that considerable interest has been aroused in commercial circles throughout South Wales by a report that important changes are contemplated in connection with the Dowlais ironworks and collieries. Great reticence is observed, but it is known that Mr. E P. Martin, the general manager of the Dowlais Ironworks, is on his way to America, accompanied by Mr. Windsor Richards, of the Low Moor Works, Halifax. A rumour has been circulated that the great undertaking is to be purchased by an American syndicate, but the latest information is that it is to be converted into a public company.

DETERMINING THE FLASHPOINT OF OILS.—We have had inquiries from correspondents asking for particulars of how the official test of the flashpoint is made; and asking us to publish the method in the *Journal*. As our space is very limited just now, we beg to refer all those interested to Messrs. Eyre and Spottiswoode, East Harding-street, London, from whom a copy of the Petroleum Act of 1879 (containing full particulars of the test) can be obtained, post free, for threepence. The apparatus costs about five guineas, and a description of the test can be had with it from almost any laboratory furnisher.

AN EXPLOSION AT A CHEMICAL WORKS.—On Tuesday morning, about eleven o'clock, an alarming explosion, which did considerable damage to property, occurred at the chemical works of Brunner, Mond, and Company, Winnington, Northwich. Two terrific reports were followed by the breakage of windows and dislodgment of planks, which were hurled a considerable distance. Heavy iron manhole covers were blown off, and a line of rails twisted. Several men had miraculous escapes. The explosion is supposed to have resulted from the escape of gas in a culvert or flue.

THE WILL OF SIR H. DOULTON.—The will, with two codicils, of Sir Henry Doulton, of Lambeth, is proved by his son and sole executor, Mr. Henry Lewis Doulton. The personalty is sworn at £310,644. 13s. 9d. gross, and £309,483. 8s. 4d. net.

MANCHESTER SEWAGE EXPERIMENTS.—At the meeting of the above committee on Monday, Sir Bosdin T. Leech in the chair, a scheme for dealing with the tank effluent of the sewage works by lateral filters was discussed at some length, and finally adjourned. It was proposed to make experiments upon a small scale with a view to discovering the cost and efficiency of the system. An additional jetty for the sludge steamer at Davyhulme was decided upon. The stokers at the works having asked for a rise in wages, it was resolved to increase them to 28s. per week. The members of the Committee are still being spontaneously favoured with the attentions of self-elected specialists on sewage treatment. They are all to receive the attention of the special committee appointed to deal with the question at an early date. The difficulties originally placed in the way of the sludge steamer by Sir George Nares, the acting conservator of the River Mersey, have been withdrawn, and the vessel is now carrying the sludge from the works to an area jointly agreed upon by the Commissioners and the Manchester Corporation. The whole of Monday afternoon was spent by a special committee in investigating the method of treating sewage at the works near Chorley, Lancashire. This is one of a series of visits intended to be made to several Corporations which have adopted the filtration treatment, and upon the information gained therein a report will shortly be presented to the Council.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are neglected, and, apart from a certain amount of speculative dealing, there is not much doing. Prices for 90's are 1s 4d. to 1s. 5d., and 50/90's 1s. 6d. to 1s. 7d. Carbolic acids are firm and moving well, at last week's quotations. Naphthas are fairly steady. Solvent is unchanged, but crude is down a halfpenny, to 8½d. Anthracene steady, at 5¼d. for 30% A, and 4d. to 4½d. for 30% B. Pitch ranges from 15s to 18s. 6d. f.o.b. East Coast Aug.-Sept.

Sulphate of ammonia is a very firm and active market. Buyers have been both keen and plentiful, and prices have risen accordingly. Makers will have to consider the advisability of advancing prices too much, but, as things stand at present, buyers cannot complain after their long innings. For the most part forward quotations have been withdrawn. Closing prompt values are:—Beckton, £9. 15s.; London outside makes, £9. 15s.; Liverpool, £9. 12s. 6d. to £9. 15s; Hull, £9. 15s.; and Leith, £9. 12s. 6d. to £9. 15s. Nitrate, 7s. 6d. to 7s. 7½d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is a fairly good inquiry for all the products, and prices are well maintained both for home and export. Bleaching powder is rather firmer for spot delivery at £5. 10s. f.o.r. makers' works, but lower prices are still accepted for forward contracts. Hardwoods f o b. are from £6. to £6. 5s. per ton. Chlorates are weak. Ammonia alkali is steady at £4. to £4. 2s. 6d. f.o.r. prompt and forward delivery. Soda crystals and bicarbonate without change. For caustic soda, prompt current quotations are unaltered, viz: F.o.b. Liverpool, 77%, £8 5s.; 74%, £8.; 70%, £7. 2s. 6d.; 60%, £6. 5s. nett, 10-ton lots. For forward delivery supplies can be obtained at slightly easier rates. Sulphur continues firm at £4. 12s 6d. f.o.r. Vitriol and muriatic acid are in moderately good demand and unchanged in value. Sulphate of copper has advanced to £16. 10s. prompt, and £16. 15s. forward delivery. White powdered arsenic is moving more freely at £21. per ton f.o.r. Brown acetate of lime firm at £5. 15s. c.i.f. U.K ports. Other acetates quiet. Carbolic crystals firm in price at 7½d. f o r. 39/40. Aniline oil and salt are much lower for forward deliveries. Bichromates rather easier. Yellow prussiate of potash steady at 6¾d., and soda 5½d. per lb. Cyanide, 1s. 2d. prompt. Nitrate of soda in good inquiry at 7s 6d. to 7s. 9d. per cwt. Oxalic acid quiet but unchanged in price.

REPORT ON MANURE MATERIAL.

The year has opened with a rather quiet market, but at firm prices. Quotations for mineral phosphates are unchanged, and no important business is reported either U.K. or Continent.

There is a good inquiry for River Plate bones, and handy cargoes on

the way would fetch £4. to £4. 2s. 6d. per ton. Shippers of East Indian bone meal are showing more disposition to be making sales, and £4. 5s. for January-February shipment would probably be business; £4. 7s. 6d. per ton bid for a parcel of fine quality Kurrachee meal, ex quay, Liverpool.

Nitrate of soda is firm at 7s. 6d. per cwt. for good, up to 7s. 7½d. per cwt. for fine quality.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron steady: Scotch warrants closed at 45s. 9d.; Middlesbro', 40s. 8d. cash; and hematite, 48s. 8½d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £48. 17s. 6d. to £49. 2s. 6d. cash, and £49. 5s. to £49. 10s. three months. Tin steady: Straits closed at £63. 1s. 3d. to £63. 11s. 3d. cash, and £63 13s. 9d. to £64. 3s. 9d. three months; Australian, £63. 13s. 9d.; English ingots, £66. 5s. Lead steady: Spanish, £12. 12s. 6d. to £12. 13s. 9d.; English, £12. 17s. 6d.; Silesian spelter, ordinary, £18. 12s. 6d. to £18. 13s. 9d. Nickel, 1s. 2½d. Antimony, £30. 7s. 6d. Quicksilver: First hands, £7.; second hands, £6. 19s. *Copper shares* steady: Cape, 4 9/16 to 4 11/16; Copiapo, 2⅛ to 2⅜; Libiola, 2¾ to 3; Mason and Barry, 3⅛ to 3⅜; Rio Tinto, 26¼ to 26 5/16; Tharsis, 6¾ to 7.

GLASGOW, WEDNESDAY.—Market firm, and a moderate business. Scotch done at 45s. 9d., 45s. 9½d., and 45s. 9d. cash; also at 46s. and 45s. 11½d., one month; buyers, 46s. 9d. cash; sellers, ½d. more. Cleveland done at 40s. 9d. cash; buyers, 40s. 8d. cash; sellers, 40s. 9d. Cumberland hematite done at 48s. 9d. cash; buyers, 48s. 8½d. cash; sellers, 48s. 9d. Middlesbrough hematite, buyers, 49. 6d. cash; sellers, 49s. 9d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is rather scarce and is correspondingly firm. Transactions have been small however. Olive is very firm; the shortness of supply is mainly responsible for this, though the demand continues fairly active. Linseed is steady at 16s. to 16s. 6d per cwt. for Liverpool makes in export casks. Cottonseed is unchanged as regards price, but the tone of Liverpool refined is firmer at 14s. 9d. to 15s. per cwt. Castor oil is in good demand, and prices are well sustained at 3 5/16d. to 3⅜d. for both good seconds Calcutta, and first pressure French. Tallow is very firm, and the offerings small, though sales were rather restricted after the opening of the week. Resin remains firm at recent values, this being particularly the case with common. Spirits of turpentine are moving well at 24s. 6d. cwt. Petroleum quiet, but holders are firm at 5¾d. to 7d. for American, and 4¾d to 5d. for Russian refined.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12., best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 90s., seconds 50s., and common 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Business opens fair, yet our prices are too high to tempt German buyers, and on the other hand they prefer to pay the extra price for American cotton oil to buying English refined cotton oil. The value of exports from here to the United States for quarter ending December 31st were:—Bleaching powder, £1,129; carbolic acid, £182.; chalk, £73.; colours, £938.; grease, £394.; manure, £733.; linseed oil, £775.; rapeseed oil, £1,171.; tar oil, £591.; oxide, £23 18s.; paint, £132.; pitch, £124; sulphate of ammonia, £203. The total exports for the year have been $888,366., against last year $191,469, an increase for the year of $696,897. 49c. Linseed oil is steady, rather buyers spot, 14s. 3d. and 14s. 4½d. month, naked; forward Feb.-April, 14s. 10½d. May-Aug., 15s. 3d. Boiled and refined from £1. to £1. 10s. per ton extra. Refined cotton oil firm spot naked, 12s 6d. to 12s. 7d½.; forward Feb.-April 12s. 10½d.; May-August 13s. 4½d. Filtered oils about £1. extra. Crude spot is quoted about 11s. 6d. naked.; barrels £1. 10s. and ordinary casks £1. extra. Castor oil is quoted from 3⅜d. to 3⅝d. per lb. for oil made here. Olive oil is firmly held, with short supplies on the spot, and quoted from £33. per tun. Cod oil from £15. 10s. to £18. per ton, in casks. Oleines from £16 to £18. per ton. Olive oil soap (Italian) from £16. Arachide nut oil, £28. Brown wool grease from £7. per ton. Danish butter 112s. to 114s. per cwt.; Swedish, 108s. to 112s.; Dutch, 100s. to 105s.; Colonial, 80s. to 100s. Turpentine unchanged. Resins from 4s. 9d. to 5s. per cwt. for common grades on the spot to 7s. 6d. for finest.

CAKES are finding a better demand, along with all feeding stuffs. Linseed cakes, £7. 17s. 6d. to £7. 2s 6d. Cotton cakes from £3. 18s. 9d. to £4. 1s. 3d. for best makes.

PAINTS.—Manufacturers are beginning to experience a better state of things Leads are unchanged. Mineral dry colours from £3. 5s. to £8. Black varnish, £5. Paint remover, 25s. per cwt. Other colours are unchanged.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue dull, and the demand does not yet show signs of much improvement. Sulphur is scarce at £4. 15s. to £5. per ton. Caustic, 76/77%, £9, and 70% £7. 10s. per ton. Soda crystals, £2. 12s. 6d. per ton, gross weight, locally. Other articles unchanged.

Bleaching powder, softs, £6. per ton, nett: hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s., per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do, 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 5d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do., 90/95% crude calcined, £6. per ton nett; sulphide of barium, crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 8s. 6d. to 9s. per ton, f.o.b. Tees.

COALS.—Market is rather firmer, and gas coals, for which there is a heavy demand, are better in price. Bunker coals are also very steady, large shipments having been made recently. Coke continues steady. Best Northumbrian steam, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 8s. 6d. to 8s. 9d. per ton; bunker coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s. per ton; coke, 17s. 6d. to 21s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Production and dealing are now getting back into normal form after the holidays, but signs of the annual interruption are still manifest, and will take another week to become fully wiped out. The market is far from active in the general sense, and some of the lines have shown additional weakness; but on the other hand one or two other chemicals have substantially strengthened. The sulphate of ammonia recovery has continued, and last week £9. 7s. 6d. was paid for January to June delivery; but the rise continued, and £9. 10s. has since been done for prompt. The movement has afforded great encouragement to the producers. Bleaching powder is quoted rather lower, also caustic soda; but sulphate of copper is dearer and prussiates also. Mineral oils and paraffins are unchanged. The open winter is rather against burning oils.

Chief prices current are:--Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 5s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 17s. 6d. to £5. 7s. 6d. nett, Glasgow; caustic soda, white, 74° £8. 0s. 0d., 70/72° £7. 2s 6d., 60/62° £6. 5s. 0d., cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 2s. 6d. nett, Tyne; saltcake, 18s.; borax, English, refined, £14 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4d. nett, for Scotch and English deliveries (for export, 3¾d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3d. nett, f.o.b Glasgow); chlorate of potash, 3⅝d. less 5%, any port; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 10s., prompt, f.o.b. Leith; salammoniac, first and second white, £33. and £31. nett any port; sulphate of copper, £16. to £16. 5s., less 5% Liverpool; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 18,622 bags cane unrefined, and 6,000 bags beet unrefined.

New Companies.

Charles Cammell & Co., Ltd.—CAPITAL £1,750,000. in £5. shares (175,000 5% cum pref.). This company has been formed to acquire the business carried on by Charles Cammell & Co., Ltd. (incorporated in 1864), to adopt a certain agreement, and to carry on the business of manufacturers of steel, iron, bronze, nickel, aluminium, and other metals, armour plate manufacturers, ordnance, gun and torpedo manufacturers, steel and iron masters, etc. The subscribers to the memorandum of association are:—H. E. Watson, Kt., Shirecliffe Hall, Sheffield; A. Wilson, Bart, Archer House, Sheffield; C. Cammell, The Hall, Huttons Ambo, Yorks., gentleman; T. Jeficock, Shire House, Sheffield, gentleman; W. Sidebottom, M.P., Broadbottom, Manchester; S. Roberts, Queen's Tower, Sheffield, gentleman; J. Duffield, Workington, engineer.

Ranson's Sugar Process, Ltd.—CAPITAL £600,000. in £1. shares. This company has been formed to adopt an agreement with the Ranson's Patents Syndicate, and to acquire, own, and work certain inventions relating to sugar refining and decoloration, and to the bleaching of animal, mineral and vegetable substances. The subscribers to the memorandum of association are:—L. de Fontblanque, 22, Upper Philimore Gardens, W., gentleman; J. Moeller, Glyn Taff, Streatham, gentleman; H. Rivett, 8, Cecil-road, Upton Manor, clerk; G. T. Augspurg, 48, Bessborough-street, S.W., clerk; L. H. Rogers, 44, Dalberg-road, Brixton, clerk; G. E. Junius, 17, Errington-road, W., secretary; F. Roessler, 158, Leathwaite-road, S.W., secretary.

Trood, Lamoureux & Co., Ltd.—CAPITAL £12,000. in £1. shares. This company has been formed to acquire and carry on the business of a manure manufacturer, carried on at Tavistock and elsewhere, by E. Trood, and the business of seed merchants, carried on at Plymouth and elsewhere by Lamoureux & Co., and to adopt a certain agreement. The subscribers to the memorandum of association are:—W. Jacobs, Brooklands, Tavistock, major-general; J. Perkins, Ottery, Tavistock, yeoman; E. Trood, 2, Endsleigh Villas, Tavistock, manufacturer; G. H. Lamoureux, Boringdon Villas, Plymouth, merchant; W. Madge, Blagdon House, Ashwater, gentleman; W. Snell, J.P., Bow, chartered accountant; J. Dullam, Hill Manor, Barnstaple, yeoman.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

C. G. RAYNE and C. J. CRAWFORD, oil merchants, Newcastle-on-Tyne, under the style of Rayne and Crawford.

T. M'ARTHUR and W. R. SCOTT, dyewood manufacturers and drysalters, Glasgow, under the style of M'Arthur, Scott, and Co.

G. T. COOPER and W. HESKETH, manufacturing chemists, drysalters, and oil merchants, Church, Lancashire, under the style of Mark Cooper

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 1st.

Acetic Acid—
Holland, 116 pks. Little & Johnston
" 290 12 cs. A. & M. Zimmermann
" 30 H. Lorenz
" 200 cs. R. W. Greeff & Co.

Acetone—
Germany, 25 drs Matthews & Luff

Ammonia—
Holland, £50 H. Lorenz

Antimony—
Japan, 10 c. W. M. Smith & Sons

Antimony Ore—
Portugal, 50 t. J. Bamber

Arsenic—
Portugal 120 cks. Coverley & Westray

Asbestos—
Italy, £20 B. Rhodes & Son
U. States, 180 W. Byford
Italy, 152 Imp. Asbestos Co.

Barium Chloride—
Germany, 44 cks. Petri Brs.

Barytes—
Belgium, 190 cks. J. L. Lyon & Co.
" 237 W. Harrison & Co.
Holland, 22 J. R. Francis & Co.
" 40 E. J. Diggins
" 110 W. Harrison & Co.
" 38 J. L. Lyon & Co.

Bleaching Powder—
Holland, 67 cks. J. M. Steel & Co.
Germany, 200 cs. H. Lambert

Bone Meal—
Belgium, 7 t. Anglo-Contl. Guano Wks.
E. Indies, 200 A. Hunter & Co.

Caoutchouc—
Singapore, 50 c. Prop. Bull Wf.
Belize, 2 Major & Field
France, 56 "
U. States, 17 Chantard & Christensen
Germany, 10 Hale & Son
" 28 Wallace Brs.
" 83 L. & I. D. Jt. Co.
Holland, 2 Lewis & Peat
France, 35 H. Johnson & Sons
Holland, 2 J. Barber & Co.
Portugal, 126 W. M. Smith & Sons
Singapore, 79 Gilman Brs & Co.
" 399 Huttenbach & Co.

Castor Oil—
E. Indies, 20 cs. W. M. Smith & Sons
" 50 Phillipps & Graves
" 15 cks. J. W. Cook & Co.

Caustic Potash—
France, 20 drs Petri Brs.
Germany, 70 J. M. Steel & Co.
France, 8 J. A. Reid

Chemicals (*otherwise undescribed*)
Holland, £60 Hernu, Peron & Co.
Germany, 188 Phillipps & Graves
" 100 T. H. Lee
" *225 A. & M. Zimmermann*
" *15 Brit. Anti-Fouling C. Co.*
France, 65 Hernu, Peron & Co.
" 73 Mory & Co.
Germany, 55 Elkan & Co.
U. States, 545 W. H. Smith
Holland, 30 Deering & Robottom
Belgium, 115 cks. Taylor Brs.

Cream of Tartar—
France, 20 cks. W. C. Bacon & Co.
" 15 F. C. Devon & Co.
Spain, 10 B. & F. Wf. Co.
" 38 W. C. Bacon & Co.
" 4 Prop. Midd. Wf
" 5 F. C. Devon & Co.
Holland, 30 kgs. Kirkpatrick & Co.
Portugal, 5 cks. B. & F. Wf. Co.
France, 4 J. W. Cook & Co.
" 22 B. & F. Wf. Co.

Dyestuffs—
Argols
France, 25 bgs. B. & F. Wf. Co.
Italy, 768 52 cks. Thames S. T. & L. Co.
" 431 B. Jacob & Sons
Austria, 143 "
Cochineal
Canaries, 12 bgs. L. & I. D. Jt. Co.
" 32 Campion & Co.
" 47 Hendrey & Martin
Cutch
Rangoon, 500 bxs. W. A. Smith
Extracts
France, 50 cks. B. & F. W. F. Co.
" 135 L. J. Levinstein & Sons
" 25 T. H. Lee
Holland, 17 J. Norrenberg & Co.
France, 25 Beresford & Co.
Germany, 5 T. H. Lee
Canada, 40 Boutcher, Mortimore & Co.
Gambier
S'gapore, 1,010 bls. Hicks & Ashmore
" 2,512 Adamson, Gillillan & Co.
" 279 bgs Beresford & Co.
" 222 bls. J. Greig
Indigo
E. Indies, 3 chts. F. Huth & Co.
France, 29 L. & I. D. Jt. Co.
E. Indies, 61 Arbuthnot, Latham & Co.
Logwood
Belize, 275 t. W. Shelcott
Myrabolams
E. Indies, 2,745 bgs. W. Shelcott
" 272 Kaltenbach & Schmitz
" 1,250 Dalton & Young
Saffron
Spain, 1 cs. Major & Field
Sydney, 1 D. & J. Fowler
Spain, 1 J. Greig
Shumac
Italy, 200 bgs. J. E. Scott
" 300 A. Laming & Co.
" 137 R. Waters
" 2,000 J. Kitchin
Tanners' Bark
Holland, 999 t. Hicks, Nash & Co.
" 24 Little & Johnston
Valonia
Turkey, 166 t. A. & W. Nesbitt
" 175 Boutcher, Mortimore & Co.
" 30 Anning & Cobb

Farina—
Germany, 50 bgs. Mulder & Co.
Holland, 100 J. Barber & Co
" 50 Dunlop Brs. & Co.
" 20 Phillipps & Graves

Glucose—
U. States, 250 pks. 250 c. Williams, Torrey, & Co.
" 1,600 9,090 R. G. Hall & Co.
France, 40 40 J. Barber & Co.
" 200 200 H. Smith & Co.
" 40 40 W. E. Cole
U. States, 50 285 A. E. Piggott
" 100 600 Deering & Robottom
" 550 792 Brown, Son & Co.
" 30 184 L. & T. Light C. & D. Co.
" 50 300 Union Ltge. Co.
" 100 600 E. & T. Pink
" 10 60 Page, Son & East

Glue—
Holland, £83 W. H. Carey & Sons
" 78 H. Johnson & Sons
Germany, 45 Phillipps & Graves
Norway, 300 Hicks, Nash & Co.
Belgium, 560 J. Barber & Co.
Holland, 28 G. Rahn & Co.
France, 82 J. Harrison
Germany, 105 L. & I. D. Jt. Co.
France, 317 Burnett Brs. & Co.
Austria, 250 L. & N. W. Ry. Co.
France, 24 B. & F. Wf. Co.
" 10 Mory & Co.
U. States, 128 L. & I. D. Jt. Co.

Lead Acetate—
Germany, 20 cks. F. Boehm

Litharge—
Holland, 40 cks. Spies Brs. & Co.

Lithopone—
Holland, 125 cks. Spies Brs. & Co.

Manganese—
Holland, 70 c. Phillipps & Graves

Manganese Ore—
France, 2 t. L. & I. D. Jt. Co.
Germany, 2 T. H. Lee

Manure—
Holland, 2 t. Little & Johnston

Methyl Alcohol—
France, 15 cks. R. D. Lyon

Mica—
E. Indies, £3260 W. M. Smith & Sons

Molasses—
U. States, 100 cks. 576 c. Seaward Brs.

Ochre—
Spain, 100 bgs. J. L. Lyon & Co.
Holland, 3 pks. Phillipps & Graves
Spain, 72 cks. Silicate Paint Co.
" 50 bgs. Artime & Co.
France, 30 cks. Ellam, Jones & Co.

Phosphate Rock—
Belgium, 330 t. Anglo-Contl. Guano Works
Algeria, 800 Odams Manure & Chemical Co.
Belgium, 128 Sawer, Sons, & Co.
France, 200 A. Hunter & Co.
U. States, 508 "

Phosphates—
U. States, £65 Seaward Brs.

Pitch—
Germany, 198 brls. Poth, Hille, & Co.

Plumbago—
U. States, 38 pks. Lunham & Moore
Germany, 93 brls. 18 cks. Morgan Crucible Co.
Ceylon, 52 J. Thredder, Son, & Co.
Germany, 58 cks. B. Gallaway
U. States, 127 L. & I. D. Jt. Co.
" 52 Marshall & French
Ceylon, 108 G. R. Haller

Potassium Carbonate—
Germany, 949 c. Gas Light & Coke Co.
Belgium, 200 Petri Brs.
Germany, 56 R. W. Greeff & Co.
France, 130 W. E. Cole
" 140 J. Barber & Co.
" 7 J. A. Reid
Germany, 247 Petri Brs.

Potassium Chloride—
Holland, 12 cks. H. Johnson & Sons
France, 20 dms. Carey & Sons

Pumice Stone—
Italy, 7 t. O'Hara & Hoar
" 1 J. F. Power
" 14 Cole & Carey

Pyrites—
Pomaron, 1,655 t. Mason & Barry, Ltd.

Rosin—
Holland, 3 brls. J. Owen

Saltpetre—
E. Indies, 595 bgs. Perkins & Homer
" 1,296 Henderson Brs.
Belgium, qty. H. Hill & Sons

Starch—
France, 22 cs. B. & F. Wf. Co.
Belgium, 122 T. H. Lee
U. States, 199 bgs. R. G. Hall & Co.
Holland, 30 cs. Phillipps & Graves
Belgium, 737 F. Claydon & Co.
Germany, 10 cks. T. H. Lee
U. States, 1,500 bgs. Union L. Co.
Belgium, 100 cs. Leach & Co.
U. States, 300 bgs. W. Grose & Co.
France, 370 cs. E. & T. Pink
Belgium, 200 C. Tennant, Sons, & Co.

Stearine—
Belgium, 76 bgs. W. H. Mitchell
France, 200 H. Hill & Sons

Sulphur—
Italy, 11 t. J. Kitchin, Ltd.

Talc—
France, £52 Brasch & Rothenstein

Tartar—
Italy, 45 cks. B. Jacob & Sons

Tartaric Acid—
Holland, 4 cks. B. & F. Wf. Co.

Ultramarine—
Holland, 28 cs. Hernu, Peron, & Co.
" 12 4 pks. J. Barber & Co.
" 3 cks. Taylor Brs.
" 20 Thames S. T. & L. Co., Ltd.
" 11 M. Benscher
" 2 W. H. Carey & Sons
Belgium, 20 J. Harrison
" 5 cs. W. Harrison & Co.
Holland, 2 G. Rahn & Co.

Varnish—
Germany, 5 pks Phillipps & Graves
U. States, 25 Williams, Torrey, & Co.
" 14 J. R. Francis & Co.

White Lead—
Germany, 43 cks. Taylor Brs.
" 73 Wilkinson, Heywood, & Co.
" 41 W. A. Rose & Co.
Holland, 25 N. J. Fenner & Co.
" 51 Randall Brs.
" 51 D. Storer & Sons

Wood Pulp—
Holland, 350 pks. G. Rahn & Co.
Sweden, 200 Alsing & Co.
Norway, 406 W. G. Taylor & Co.
Holland, 84 Thames S. T. & L. Co.
Norway, 800 Gray's Paper Mills Co.
" 4,150 London Paper Mill Co.
" 4,220 Johnsen & Jorgensen
Portugal, 250 Tough & Henderson
Norway, 203 Becker & Co.
Holland, 110 Henderson, Craig, & Co.
" 1,264 E. J. & W. Goldsmith
Germany, 500 Henderson, Craig, & Co.
Sweden, 2,998 " "
Canada, 3,559 Becker & Co.

Zinc Oxide—
Germany, 10 cks. R. W. Greeff & Co.
Holland, 700 Soundy & Sons
Germany, 150 M. Ashby, Ltd.

Zinc Sulphide—
Germany, 12 H. Keller & Co.

LIVERPOOL.

Week ending December 30th.

Arsenic—
Antwerp, 34 cs.

Barytes—
Rotterdam, 21 cks.

Bone Ash—
Las Palmas, 217 bgs. J. Nelson & Son

Bone Meal—
B. Ayres, 566 bgs.

Borax—
Leghorn, 54 cks.

Castor Oil—
Calcutta, 362 cs. Ralli Brs.
" 100

Caustic Soda—
Rotterdam, 1 bx.

Chemicals *(otherwise undescribed)*
Hamburg, 10 cks.
Rotterdam, 4

Colours—
Rotterdam, 1 brl. 3 tins.

Cottonseed Oil—
New York, 100 brls.
Constantinople, 2 sks.
" 6 J. Kechtel

Cream of Tartar—
Patras, 9 bgs.
Bordeaux, 18 cks.
St. Nazaire, 2

Dyestuffs—
Cutch
Rangoon, 2,450 bxs.
Shumac
Messina, 1 brl.
Valonia
Naples, 162 bgs.
Patras, 996
Syra, 400 C. Nicolaidis
Smyrna, 118 t. 10 c. Barry Brs.
" 179

Glucose—
New York, 100 brls. T. M. Duche & Son
" 150
Boston, 200
Baltimore, 50

Glue—
Genoa, 50 cs.
Stettin, 70 bskts. N. Johansen & Dahl
Hamburg, 20 bgs.
Fiume, 100
St. Nazaire, 29 cks.

Lactic Acid—
Boston, 10 brls. 5 kgs.

Lamp Black—
New York, 100 brls.

Lead Acetate—
Hamburg, 16 cks.

Limestone—
Antwerp, 17 cs.

Litharge—
Hamburg, 3 cks.

Lithopone—
Rotterdam, 40 cks.

Logwood—
Alexandria, 50 bgs.

Magnesium Sulphate—
Valencia, 200 bgs.

Manganese Ore—
Hamburg, 13 cks.
Bordeaux, qty.
Coquimbo, 1,800 t. Darwen & Mostyn Iron Co.
Vizagapatam, 700 "

Mineral White—
Fiume, 100 bgs.

Molasses—
Alexandria, 7,315 cks.

Naphtha—
Philadelphia, 6,512 brls.

Paint—
New York, 9 brls. J. Mathews & Co.
Hamburg, 15 dms.

Paraffin Scale—
New York, 1,389 brls. Thompson & Bedford
105 cs.
Baltimore, 100 brls.

Phosphoric Acid—
Bremen, 10 cks.

Potassium Carbonate—
Stettin, 2 cks. Sachse & Klemm

Pyrites—
Huelva, 1,8,9 t. Matheson & Co.

Rosin—
Parnahyba, 9 bgs. Leech, Harrison & Co.

Saltpetre—
Calcutta, 136 bgs.

Silver Sulphide—
Vera Cruz, 11 cs. Elliot's Metal Co.

Soap—
Marseilles, 10 cs. R. H. Cooper
Leghorn, 50 bxs 3 cs.
Bari, 157
N'port News, 100 brls.
Smyrna, 25

Sodium Prussiate—
Antwerp, 16 cks.

Starch—
Bremen, 170 cs
Hamburg, 132
Boston, 800 bgs.
Baltimore, 100 brls.
Newport News, 400 A. L. Jones & Co.
Boston, 10 brls. I. Braithwaites & Co.

Stearine—
Antwerp, 13 bgs.
Baltimore, 50 tcs.

Sulphur—
Catania, 67 brls. 100 bgs.

Tallow—
Boston, 50 trcs. 257 brls.
Baltimore, 75.
Las Palmas, 200 pps. London & Brazil Bk., Ld.
B. Ayres, 1,138 cks.
Portland, 250 trcs.

Tartar—
Ancona, 1 ck.

Varnish—
Boston, 8 brls. W. H. Staynes & Smith

White Lead—
Antwerp, 37 cks. J. T. Fletcher & Co.
Rotterdam, 20 37 brls.

Wood Pulp—
Boston, 1,766 rolls Thin & Sinclair

Zinc Ashes—
B. Ayres, 302 bgs. G. Gottschalk
Marseilles, 3 cks.

Zinc Oxide—
Antwerp, 10 brls.
Rotterdam, 40 cks.

MANCHESTER.

Week ending January 1st.

Alizarine—
Rotterdam, 62 cks.

Aniline Colours—
Rotterdam, 2 cks. 2 cs.

Antimony Oxide—
Rotterdam, 4 cks.

Asbestos—
Hamburg, 1 cs.

Barium Chloride—
Hamburg, 22 cks.

Barytes—
Rotterdam, 71 cks.

Bone Ash—
Rio Grande Do Sul, 310 t. J. Gordon & Co.

Caustic Potash—
Hamburg, 35 dms.

Chemicals *(otherwise undescribed)*
Rotterdam, 22 cks.

Colours—
Rotterdam, 28 cks. 4 bxs. 37 cs. 1 pk.

Dextrine—
Hamburg, 100 bgs.

Farina—
Hamburg, 140 bgs.
Stettin, 1,250 Browne, Geveke, & Co.
" 300
Rotterdam, 1,300 N. W. Jackson
" 1,000

Glucose—
New York, 200 brls.
Stettin, 1,000 bgs.

Glue—
Hamburg, 100 bls.
Rotterdam, 120 bgs.
Fiume, 400 4 cks.

Lithopone—
Hamburg, 67 brls.

Magnesite—
Fiume, 1,990 bgs.

Manganese—
Huelva, 25 t. Stott, Coker, & Co.

Ochre—
Rotterdam, 12 cks. 2 bgs.

Paraffin Scale—
New York, 930 brls.

Potash—
Hamburg, 12 cks.

Pumice Stone—
Rotterdam, 6 cs.
Messina, 260 bgs.

Pyrites—
Huelva, 1,306 t. Stott, Coker, & Co.

Rosin—
Savannah, 5,258 brls.

Shumac—
Palermo, 175 bgs. 500 bls.

Soda—
Rotterdam, 2 cks.

Sodium Nitrate—
Rotterdam, 8 cks.

Starch—
New York, 200 bgs.
Hamburg, 25 cks. 236 cs.
Rotterdam, 35

Tallow—
New York, 100 hds.

Tartar—
Hamburg, 15 cks. 23 kgs.

Tartaric Acid—
Rotterdam, 20 kgs.
Messina, 8 cks.

Ultramarine—
Hamburg, 4 cks.
Rotterdam, 2 6 cs.

Waste Salt—
Hamburg, 2,027 cks. 602 bgs.

Whiting—
Dieppe, 180 t.

Wood Alcohol—
New York, 1 bx.

Wood Pulp—
Gothenburg, 2,050 bls.
Kallero, 3,200 W. Gallagher & Son
Rotterdam, 16
Fiume, 946 pks.

Zinc Ashes—
Stettin, 14 cks.

Zinc Oxide—
New York, 100 brls.
Rotterdam, 55

Zinc Sulphate—
Gothenburg, 10 cs.

HULL.

Week ending January 1st.

Acids—
Bari, 68 cks. Wilson, Sons, & Co., Ld.

Albumen—
Riga, 5 cs. Wilson, Sons, & Co., Ld.

Antimony—
Dunkirk, 2 cks. Wilson, Sons, & Co., Ld.

Arsenic—
Hamburg, 26 kgs. Wilson, Sons, & Co., Ld.

Barytes—
Rotterdam, 209 cks. Hutchinson & Son
Antwerp, 108 Bailey & Leetham, Ld.
51 bgs.
Riga, 25 cks Wilson, Sons, & Co., Ld.
Antwerp, 200 bgs.

Camphor—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Antwerp, 80 cks. Wilson, Sons, & Co., Ld.
Hamburg, 10 cks. "
Bremen, 1 Veltmann & Co.
" 4 cs. "
Gothenburg, 4 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 9 cs. W. & C. L. Ringrose
" 1 E. & H. Allison

Cod Oil—
Hamburg, 5 cks. Wilson, Sons, & Co., Ld.

Colours—
Hamburg, 7 pks. Wilson, Sons, & Co., Ld.
Rotterdam, 138 W. & C. L.
2 bxs. 2 cks. Ringrose
Antwerp, 35 pks. Wilson, Sons, & Co., Ld.

Cryolite—
Copenhagen, 2 cks. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 77 brls. W. & C. L. Ringrose
Gambier
Antwerp, 79 bgs. Wilson, Sons, & Co., Ld.
Indigo
Rotterdam, 1 chst. Hutchinson & Son
Logwood
Hamburg, 4,482 pcs. Wilson, Sons, & Co., Ld.
Shumac
Palermo, 372 bgs. Wilson, Sons, & Co., Ld.
" 700
Valonia
Smyrna, 103 t.
Trieste, 60 bgs. Wilson, Sons, & Co., Ld.

Dyestuffs *(otherwise undescribed)*
Hamburg, 450 bls. Wilson, Sons, & Co., Ld.

Farina—
Hamburg, 450 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 1,192 bls. Hutchinson & Son
" 1,070 W. Gilyott & Co.
Antwerp, 20 bgs. Bailey & Leetham, Ld.
Harlingen, 550 W. & C. L. Ringrose

Glucose—
Boston, 430 brls.

Glue—
Antwerp, 3 cs. Bailey & Leetham, Ld.
Fiume, 200 bgs.
Dunkirk, 58 cks. Wilson, Sons, & Co., Ld.

Iron Oxide—
Trieste, 26 cks.
Lead Acetate—
Hamburg, 29 cks. Bailey & Leetham, Ld.
Mercury—
Hamburg, 1 cs.
Mineral White—
Bordeaux, 20 bgs. Rawson & Robinson
Phosphates—
Bona, 1,600 t.
Dunkirk, 1,000 bgs.
Pitch—
Antwerp, 22 cks. Wilson, Sons, & Co., Ld.
Plumbago—
Hamburg, 23 cks. Wilson, Sons, & Co., Ld.
Potash—
Antwerp, 5 dms. Wilson, Sons, & Co., Ld.
Dunkirk, 13 "
" 14 cks.
Potassium Sulphate—
Rotterdam, 20 bgs. Hutchinson & Son
Pumice Stone—
Messina, 221 pks. Wilson, Sons, & Co., Ld.
" 118
Rosin—
Hamburg, 5 brls. Wilson, Sons, & Co., Ld.
Saltpetre—
Hamburg, 157 bgs. Wilson,
10 kgs. 50 cks. Sons. & Co., Ld
" 20 C. E. Johnson & Co.
Soap—
Boston, 230 brls.
Bari, 30 cs. Wilson, Sons, & Co., Ld.
" 20
Soda—
New York, 2 brls. Wilson, Sons, & Co., Ld.
Ghent, 200 bgs. "
Antwerp, 40 "
Starch—
Ghent, 80 cs. Wilson, Sons. & Co., Ld.
Antwerp, 80 Bailey & Leetham, Ld.
Bremen, 1,505 pks. Veltmann & Co.
Rotterdam, 305 cs. Reckitt & Sons
Rotterdam, 34 Hutchinson & Son
Sulphur—
Catania, 253 pks. Wilson, Sons, & Co., Ld.
" 661
Tallow—
New York, 100 tcs. Wilson, Sons, & Co., Ld.
Boston, 100 brls. "
Dunkirk, 42 cks. "
Tartaric Acid—
Rotterdam, 4 cks. W. & C. L. Ringrose
Treacle—
New York, 625 brls. Wilson, Sons, & Co., Ld.
" 100
Turpentine—
Bordeaux, 10 cks. Rawson & Robinson
Ultramarine—
Rotterdam, 2 cks. Hutchinson & Son
Varnish—
Ghent, 4 brls. Wilson, Sons, & Co., Ld.
Bremen, 2 pks. W. Moran & Co.
White Lead—
Rotterdam, 29 cks. Hutchinson & Son
Antwerp, 25 Bailey & Leetham. Ld.
Christiania, 8 Wilson, Sons, & Co., Ld.
Amsterdam, 12 W. & C. L. Ringrose
Wood Pulp—
Hamburg, 17 cs. Wilson,
122 bls. Sons, & Co., Ld.
" 400 pks. Bailey & Leetham, Ld.
Gothenburg, 12 bls. W. Shipstone & Co.
Hango, 72 J. Good & Sons

GLASGOW.

Week ending January 6th.

Acetic Acid—
Rotterdam, 8 cks. J. Rankine & Son
Asbestos—
Hamburg, 1 cs.
Genoa, 14 25 pks.
Barium Sulphate—
Antwerp, 200 bgs. 101 cks.
Caustic Potash—
Hamburg, 8 dms.
Chemicals (*otherwise undescribed*)
Rotterdam, 3 cs.
Chromium Sulphate—
Hamburg, 1 ck.
Colours—
Rotterdam, 4 brls. 3 bxs.
Antwerp, 1 ck.
Rotterdam, 45 pks. J. Rankine & Son
Cottonseed Oil—
Baltimore, 50 brls.
New York, 125
Cream of Tartar—
Barcelona, 15 cks.
Dyestuffs—
Alizarine
Rotterdam, 3 brls. 48 cks.
Aniline Dyes
Antwerp, 5 cs.
Extracts
New York, 100 bxs.
Logwood
New York, 249 pcs.
Gelatine—
Hamburg, 4 cs.
Glue—
Fiume, 100 bgs Steinhoff, Sons & Co.
Rotterdam, 40
Hamburg, 80
Gypsum—
Rouen, 400 bgs.
Lamp Black—
Gothenburg, 6 cks. 39 cs.
Litharge—
Rotterdam, 42 cks J. Rankine & Son
Magnesite—
Hamburg, 2 cks
Magnesium Chloride—
Rotterdam, 6 cks. J Rankine & Son
Paint—
New York, 1 cs.
Christiania, 3
Paraffin Wax—
Baltimore, 100 brls.
Phosphorus—
Baltimore, 5 cs.
Plumbago—
Genoa, 300 bgs.
Potash—
Rotterdam, 56 cks.
Hamburg, 23
Potassium Prussiate—
Amsterdam, 10 cks. J. Rankine & Son
Pyrites—
Huelva, 2,038 t. Tharsis Co.
Rosin—
Brunswick, Ga., 3,734 brls.
Salt—
Hamburg, 4 cs.
Soap—
Bari, 146 cs.
New York, 200 bxs.
Sodium Sulphate—
Antwerp, 30 cks.
Starch—
Fiume, 35 bgs. W. Stirling & Son
" 10 J. Angus
Antwerp, 20 cs.
New York, 200 sks.
Stearine—
New York, 15 bds.
Amsterdam, 62 bgs. J. Rankine & Son
Tallow—
Boston, 66 tcs.
New York, 5
Tartar—
Baltimore, 7 cks.
Tartaric Acid—
Barletta, 4 brls. J. Bunten & Co.
" 12 W. Bunten & Co
Turpentine—
Brunswick, Ga., 500 brls.
Varnish—
New York, 14 brls.
Waste Salt—
Hamburg, 378 cks. 500 bgs.
White Lead—
Rotterdam, 11 cks.
Whiting—
Rouen, 24 cks.
Wood Pulp—
Oporto, 250 pks.
Skutscar, 2,528 bls. Henderson, Craig & Co.
Christiania, 5,472
Drontherm, 980
Portland, Me., 30 tdls.
Zinc Oxide—
New York, 350 brls.
Zinc Sulphate—
Gothenburg, 20 bgs.
Zinc White—
Rotterdam, 125 pks. J. Rankine & Son

TYNE.

Week ending January 1st.

Alum Earth—
Hamburg, 59 cks. Tyne S. S. Co.
Antimony Ore—
Antwerp, 2,000 bgs. Tyne S. S. Co.
Barium Chlorate—
Rotterdam, 350 bgs. Tyne S. S. Co.
Barium Chloride—
Rotterdam, 1 ck. Tyne S. S. Co.
Barytes—
Antwerp, 600 bgs. Tyne S. S. Co.
Colours—
Antwerp, 4 cks. Tyne S. S. Co.
Glue—
Philadelphia, 15 bls. Anglo-American Oil Co.
Hamburg, 5 bgs. Tyne S. S. Co.
Limestone—
Antwerp, 10 crts. Tyne
2 cs. S. S. Co.
Paint—
Hamburg, 2 dms. Tyne S. S. Co.
Phosphate—
Bona, 550 t.
Pyrites—
Huelva, 1 121 t.
Starch—
Rotterdam, 100 cs. Tyne S. S. Co.
Stearine—
Rotterdam, 7 bgs. Tyne S. S. Co.
Antwerp, 13 "
Ultramarine—
Rotterdam, 4 cks. Tyne S. S. Co.
White Lead—
Antwerp, 20 brls. Tyne
13 cks. S. S. Co.
Wood Pulp—
Hamburg, 80 bls. Tyne S. S. Co.
Christiania, 304
Gothenburg, 390 pks.
Zinc Sulphate—
Gothenburg, 22 bgs.

GOOLE.

Week ending December 29th.

Alizarine—
Rotterdam, 48 cks. 3 cs.
Barytes—
Rotterdam, 11 cks.
Colours—
Hamburg, 40 cks.
Rotterdam, 4
Dyestuffs (*otherwise undescribed*)
Boulogne, 64 cks. 1 cs.
Rotterdam, 211 40
Farina—
Hamburg, 200 bgs
Fustic—
Jamaica, 449 t.
Logwood—
Belize, 500 t.
Potash—
Hamburg, 5 cks.
Rotterdam, 150
Saltpetre—
Hamburg, 65 cks.
Rotterdam, 70 bgs.
Antwerp, 85
Soap—
Rotterdam, 4 cs.
Starch—
Ghent, 41 cs.
Tartaric Acid—
Rotterdam, 7 cks.
Waste Salt—
Hamburg, 602 cks.

GRIMSBY.

Week ending January 1st.

Aniline—
Antwerp, 30 pks.
Caoutchouc—
Antwerp, 1 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 1 cs.
Colours—
Hamburg, 4 cks. 4 cs. 25 pks.
Antwerp, 11 11
Dyestuffs (*otherwise undescribed*)
Hamburg, 10 cks. 1 cs.
Farina—
Hamburg, 100 bgs.
Glue—
Dieppe, 40 cks.
Paint—
Hamburg, 10 dms.
Wood Pulp—
Rotterdam, 5 bls.
Zinc Ashes—
Antwerp, 10 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 5th.

Acids—
Cape Town, 18 cs. £18
Durban, 60 63
Madras, 2 11
E. London, 10 pks. 26
Alkali—
Fremantle, 6 c. £7
Zanzibar, 2 t. 10 18
New York, 7 15 125
Ammonia—
Adelaide, 1 t. 1 c. £27
Calcutta, 10 cs 15
Ammonium Carbonate—
Calcutta, 6 c. £10
Antwerp, 1 t. 26
Melbourne, 7 11
Ammonium Chloride—
Genoa, 1 t. £18
Sydney, 4 cks. 32
Salonica, 1 c. 33

Ammonium Nitrate—
New York, 6 cks. £27
Ammonium Sulphate—
Jersey, 11 t. 2 c. £107
E. London, 3 14
Dunkirk, 150 1,350
Martinique, 74 1 654
Bremen, 200 1,800
Ghent, 100 900
Charente, 25 4 214
Colombo, 6 60
Anhydrous Ammonia—
Antwerp, 4 t. 14 c. £465
Arsenic—
Napier, 1 t. 5 c. £30
Wellington, 1 10 36
Bleaching Powder—
Cape Town, 12 c. £6
Bone Dust—
Martinique, 30 t. £115
Boracic Acid—
Brisbane, 10 c. £12
Borax—
Calcutta, 1 t. 11 c. £23
Wellington, 10 7
Sydney, 120 kgs. 86
Carbolic Acid—
Calcutta, 50 dms. 4 cs. £23
Sydney, 200 32
Rotterdam. 25 cks. 105
Carbonic Acid Gas—
Halifax, 15 cs. £83
Caustic Soda—
Durban, 1 t. 7 c. £24
Delagoa Bay, 8 7
Wellington, 4 11
Chemicals *(otherwise undescribed)*
Trinidad, 6 pks. £13
Adelaide, 1 ck. 5 cs. 33
Pt. Elizabeth, 12 dms. 50
Sydney, 33 pks. 56
Perth, 2 cs. 10
Marseilles, 24 36
Toronto, 62 255
Shanghai, 160 kgs. 84
Singapore, 63 pks. 55
Madras, 11 11 39
Hamburg, 10 57
E. London, 2 cs. 10
Borneo, 4 38
Gibraltar, 20 cks. 1 27
Melbourne, 4 pks. 20
Boulogne, 2 cs. 22
Auckland, 10 kgs. 44
Calcutta, 18 pks 35
Bombay, 6 cs. 41
New York, { 30 brls. 50 / 27 cks. 7 pks. } 431
Cape Town, 7 2 cs. 22
Citric Acid—
Cape Town, 1 c. £7
Pt. Elizabeth, 1 6
Hiogo, 1 t. 114
Amsterdam, 2 12
Reval, 10 kgs. 57
E. London, 1 8
Bombay, 15 66
Seville, 15 80
Coal Products—
Alizarine
Reval, 12 cs. £635
Aniline
Calcutta, 1 cs. £82
Aniline Oil
Genoa, 10 dms. £320
New York, 39 1,250
Aniline Salts
Genoa, 30 cks. £200
New York, 52 450
Anthracene
Dusseldorf, 59 cks. £124
Benzol
Rotterdam, 153 cks. £695
Hamburg, 48 230
Creosote
Dieppe, 69,966 galls. £375
Newport News, 500 cks. 356
Naphtha
Treport, 25 brls. £60
Naphthaline
Hamburg, 4 cks. £35
Cologne, 11 97
Pitch
Ancona, £1,065
Philadelphia, 200 cks. 30
Sydney, 25 brls. 14
Antwerp, 840 t. 869
Rotterdam, 28 33
Dunkirk, 2,343 2,851
N. Orleans, 100 cks. 40
Prussian Blue
Amsterdam, 3 cks. £13
Tar
Christiania, 50 firkins £20
E. London, 200 dms. 5
Borneo, 6 brls. 7
Durban, 650 20cks. 20rnlts. 70
Tar Oil
Melbourne, 10 brls. £14
Toluol
Hamburg, 45 cks. £750
Copper Sulphate—
Rouen, 5 t. 2 c. £78
E. London, 9 7
Alexandria, 1 t. 17
Marseilles, 25 413
Wellington, 1 16
Amsterdam, 1 10 26
Cream of Tartar—
Newcastle, 1 t. £75
Wellington, 9 c. 36
Yokohama, 5 kgs. 21
Sydney, 7 548
Disinfectants—
Calcutta, 10 cs. £34
Sydney, 20 54
Madras, 4 16
Cape Town, 3 20
New York, 50 dms. 44
E. London, 6 22
Dried Blood—
New York, 3 t. £162
Manure—
Genoa, 68 t. 19 c. £165
Grenada, 2 14
Martinique, 72 5 610
Rochefort, 130 440
Havre, 30 100
Auckland, 5 50
Demerara, 100 900
Jersey, 240 1 1,733
Nitric Acid—
Jersey, 49 carboys £86
Oxalic Acid—
Brisbane, 1 t. £33
Oxygen—
Pt. Elizabeth, 25 cylds. £65
Phosphorus—
Melbourne, 4 c. £42
Teneriffe, 4 cs. 44
Potash Salts—
Auckland, 6 t. 2 c. £570
Potassium Bromide—
Calcutta, 2 c. £21
Potassium Chlorate—
Cape Town, 3 c. £6
Madras, 6 10
Calcutta, 1 33
Potassium Cyanide—
Sydney, 20 cs. £243
Delagoa Bay, 4 t. 6 c. 340
Fremantle, 3 4 360
New York, 50 240
Rio de Janeiro, 1 10 225
Yokohama, 30 84
Baltimore, 1 116
Melbourne, 12 12 25 1,588
Madras, 7 14
Saltpetre—
Newcastle, 10 c. £10
Antwerp, 3 t. 6 68
Canterbury, 10 11
Oporto, 7 10 137
Durban, 11 11
E. London, 1 5 25
Sydney, 3 11 70
Sheep Dip—
Pt. Elizabeth, 6 c. £10
New York, 25 dms. 11
Soda—
Rotterdam, 5 t. £30
Cape Town, 4 3 c. 12
Soda Crystals—
Fremantle, 2 t. 2 c. £6
Sodium Bicarbonate—
Singapore, 1 t. £7
Brisbane, 1 8
Perth, 11 c. 7
Sodium Carbonate—
Cochin, 15 c. £10
Sodium Sulphate—
Ghent, 50 t. £75
Sulphur—
E. London, 11 c. £6
Calcutta, 10 5
Sulphuric Acid—
E. London, 1 t. 10 c. £13
Cape Town, 2 5 20
Aden, 10 cs. 11
Superphosphates—
Guildford, 20 t. £43
Tartaric Acid—
Newcastle, 1 t. £120
Fremantle, 3 c. 16
Bombay, 5 25
Brisbane, 10 57
Yokohama, 20 kgs. 115
Sydney, 10 58
Melbourne, 5 28

LIVERPOOL.

Period ending January 5th.

Alkali Waste—
Antwerp, 2 t. 3 c. £6
Alum—
Bari, 1 t. 3 q. £5
Ancona, 4 20
Alexandretta, 3 12 c. 25
Madras, 3 15 20
Aluminoferric—
Portland, M., 5 t. 6 c. 2 q. £23
Ammonia (Liquid)—
Colombo, 7 c. £43
Ammonium Carbonate—
Marseilles, 1 t. 1 c. 2 q. £28
Mexico City, 6 11
Bari, 3 5
Antwerp, 2 2 5
Guayaquil, 10 10
Ammonium Chloride—
Patras, 4 c. £6
Amsterdam, 10 16
Rosario, 10 18
Genoa, 1 t. 17 52
Trieste, 3 19 117
Valencia, 1 11 30
B. Ayres, 1 33
Hiogo, 5 90
Ammonium Sulphate—
Gd. Canary, 10 t. 12 c. £90
Alicante, 51 209
Norfolk. Va., 121 5 1,091
La Pallice, 50 450
Cullera, 35 315
Genoa, 80 10 751
Valencia, 177 6 2 q. 1,494
Marseilles, 91 2 778
Baltimore, 111 988
Arsenic—
B. Ayres, 17 t. 13 c. £400
Bisulphite of Lime—
Rangoon, 3 t. 10 c. £25
Bleaching Powder—
Aarhuus, 50 cks.
Baltimore, 196
Bari, 10 kgs
Bombay, 50 100 cs. 30 dms.
Boston, 672
Cape Town, 40 bxs.
Carril, 6
Copenhagen, 87
Dunkirk, 36
Genoa, 163
Havana, 10
Leghorn, 33
Lisbon, 30
Naples, 10
N. Orleans, 20
Newport News, 26
New York, 297
Norrkoping, 3
Odense, 34
Oporto, 36
Portland, 47
Rio de Janeiro, 15 brls.
Rouen, 10
San Francisco, 50
Seville, 34
Philadelphia, 134
Valencia, 10
Vera Cruz, 25
Boracic Acid—
Hiogo, 2 t. 10 c. £65
Yokohama, 2 19 65
Borax—
Hiogo, 2 t. 19 c. 2 q. £52
Hamburg, 1 11 25
Antwerp, 5 1 81
Portland, 2 12 3 37
Sydney, 2 5 3 46
Calcium—
Boston, 50 t. £96
Calcium Chloride—
Odessa, 10 t. 4 c. £40
Rangoon, 2 19 7
Carbolic Acid—
Kingston, Ja., 2 cs. £12
Rotterdam, 5 t. 305
Sydney, 150 galls.
Hamburg, 2 6 c. 156
Yokohama, 3 1 q. 145
Calcutta, 9 cs. 37
Caustic Soda—
Alexandretta, 23 dms.
Alexandria, 17
Amsterdam, 149 5 brls.
Ancona, 24
Antwerp, 33
Bahia, 7
Baltimore, 340 50
Barcelona, 29 24 cks.
Bari, 143
Beyrout, 25
Bilbao, 230
Bombay, 50
Boston, 350 54
Brisbane, 68
B Ayres, 210
Callao, 200
Catania, 45
Delagoa Bay, 20
Dunedin, 48
Dunkirk, 205
E. London, 20 cs.
Fiume, 93
Ghent, 28
Genoa, 430
Gibraltar, 7
Hamburg, 273
Havana, 40
Havre, 25
Hiogo, 1,363
Hong Kong, 35
Larnaca, 15
Leghorn, 65 35 cks.
Libau, 36
Lisbon, 70
Malaga, 55
Marseilles, 40
Maranham, 10
Melbourne, 112 31 crts
Messina, 89
Nagasaki, 104
Naples, 46
M. Video, 70
N. Orleans, 300
New York, 474
Oporto, 15
Para, 20
Pernambuco, 79 40 kgs
Philadelphia, 135
Puerto Cabello, 16
Rangoon, 35
Rio de Janeiro, 20
Rotterdam 35
Santander, 14
Santos, 15
Seville, 749
Pt. Natal, 70 25 cs.
Shanghai, 4
Singapore, 15
Sourabaya, 51
Sydney, 92
Tampico, 28
Tarragona, 65
Trieste, 184
Tripoli, 15
Valencia, 8
Valparaiso, 30 10 brls.
Vera Cruz, 35
Yokohama, 4
Chemicals *(otherwise undescribed)*
Hamburg, 1 t. £29
Rotterdam, 2 16 c. 92
Bordeaux, 3 cks. 15
Calcutta, 40 19 109
Copenhagen, 1 1 32
Barcelona, 2 35
Rosario, 2 21
China Clay—
Barcelona, 80 sks.
Bombay, 668 cks.
Boston, 2,515
B. Ayres, 6
Genoa, 40
Manila, 80
Newport News, 80
New York, 430
Portland, 217 265 t.
Rio de Janeiro, 16 10
Chloroform—
Constantinople, 1 cs. £13
Coal Products—
Alizarine
Alexandretta, 10 brls.
Aniline Colours
Bombay, 2 cs.
Boston, 2 8 kgs.
Genoa, 3
New York, 11 pks.
Aniline Oil
Barcelona, 10 cks.
Rouen, 5 dms.
Portland, 2

Aniline Salts
Barcelona, 20 cks.
Boston, 16 96 cs.
Calcutta, 1
Genoa, 2 t. 17 c.
New York, 23 cks.
Smyrna, 5 brls.
Syra, 3
Vera Cruz, 9

Naphtha
Campana, 13 crts.
Melbourne, 44 dms.

Naphthol
Genoa, 4 cks.

Pitch
Cette, 517 t.
Genoa, 159

Tar
Tuticorin, 12 brls.
Vancouver, 3 cks.

Copper Sulphate—
B. Ayres, 19 t. 12 c. 3 q. £317
Algiers, 32 9 3 495
Mollendo, 11 3 15
Oporto, 10 1 3 157
Bari, 4 5 68
Dunedin, 1 5 20
Bombay, 1 5 20
Fiume, 70 3 1,110
Calamata, 4 19 76
Vostizza, 11 18 3 181
Callao, 1 7 1 21
Bathurst, 11 9
Leghorn, 39 10 635
Trieste, 40 1 640
Nantes, 24 366
Naples, 29 6 1 481
Genoa, 45 6 732
Venice, 54 8 2 845
Patras, 26 4 1 405
Bordeaux, 535 17 1 8,197

Copperas—
Gibraltar, 4 c. £7

Disinfectants—
Rangoon, 1 t. £10
Yokohama, 6 2 q. 318
Calcutta, 1 2 c. 7

French Chalk—
Pernambuco,, 15 bgs.

Indigo Waste—
New York, 5 t. 12 c. 1 q. £131

Lime—
Accra, 10 t. £9
Lagos, 8 8

Magnesia—
Havre, 100 cs.
M. Video, 5
Rosario, 1
Rouen, 100
Santander, 15 pks.

Magnesite—
Rouen, 50 bgs.

Magnesium Carbonate—
Mexico City, 10 c. 3 q. £16
Vera Cruz, 10 cs.

Magnesium Chloride—
Manila, 20 t. 5 c. £59

Manure—
Bordeaux, 11 t. £65
Vancover, 11 40

Muriatic Acid—
Mollendo, 2 c. 1 q. £5

Nitric Acid—
Mollendo, 1 c. 1 q. £6

Paint—
Barbadoes, 80 kgs. 4 hds. 4 cks.
Belize, 126
Boca, 70
Bordeaux, 8
B. Ayres, 20
Callao, 7 cs.
Colon, 100
Constantinople, 250
Coquimbo, 18
Curacao, 40
Gibraltar, 7 pks.
Guayaquil, 25 cs.
Havana, 25
Iquique, 17 1
Loanda, 3
Madras, 44
Maranham, 5 pks.
Matanzas, 6
New York, 27 59
Punta Arenas, 5
San Juan, 4
Rio de Janeiro, 1
Rotterdam, 9
Sierra Leone, 59
Sinoe, 49
Smyrna, 950
Trieste, 12
Valparaiso, 30 pks. 15
Vera Cruz, 31
Yokohama, 200 90 dms.
Yloilo, 5

Painters' Colours—
Adelaide, 50 cs.
Bahia, 7 cks.
Baltimore, 245 45 kgs.
Beyrout, 51
Bombay, { 153 1,372 / 130 brls.
Boston, 1 pk.
Brass, 24
B. Ayres, 3 cs.
Callao, 34
Candia, 10 cks. 13 brls 163
Cape Town, 1 pk.
Constantinople, 210
Coquimbo, 10
Hamburg, 3
Manaos, 16
Maranham, 19
M. Video, 1 7 cs.
New York, { 5 / 1 ck. 2 bxs.
Old Calabar, 24 pks.
Opobo, 24
Para, 2 brls. 4 cs.
Pernambuco, 30 30 kgs.
Piræus, 2 1
Pt. Natal, 34
Sapeli, 38
Progresso, 15
Sierra Leone, 56
Valparaiso, 50
Vera Cruz, 100
Warri, 24
Yokohama, 100
Zante, 7

Paraffin Wax—
Bari, 26 bgs.
Larnaca, 21 cs.
Leghorn, 200
Messina, 70
Palermo, 15
Pernambuco, 10 cks.
Rio de Janeiro, 6
Salonica, 25
San Sebastian, 16
Seville, 7
Smyrna, 10
Syra, 18
Trieste, 8
Venice, 90

Phosphorus—
Tampico, 10 c. £110

Potashes—
Campana, 10 c. £11

Potassium Bichromate—
Bombay, 1 t. 13 c. 1 q. £73
Syra, 2 2 7
Genoa, 10 1 19
Antwerp, 1 3 39
Bari, 1 10 3 57
Venice, 1 2 3 42
Vera Cruz, 1 43

Potassium Chlorate—
Hiogo, 5 t. £158
Libau, 5 156
Kiev, 5 156
Stettin, 10 c. 16
Gothenburg, 2 10 85
Tampico, 2 4
Hamburg, 7 13 231

Salt—
Abonnema, 35 t. 14 c.
Algoa Bay, 224 bgs. 56 sks.
Amsterdam, 107 t.
Antwerp, 295
Bakana, 30 2
Baltimore, 550
Barbadoes, 50
Belize, 505
Boston, 200
B. Ayres, 7 3
Buguma, 35 15
Calcutta, 1,436
Cape Coast, 32 8
E. London, 42 15
Ghent, 285
Gd. Bassa, 25 10
Kingston, 70
Manoh, 10
Manila, 13
Matadi, 11
Melbourne, 54 4
N. Orleans, 1,750
Newcastle, 100
New York, 585 15
Noqui, 49 5
Old Calabar, 320
Opobo, 40
Para, 200
Pernambuco, 120
Rangoon, 455
Rouen, 10 4
St. John's, N.B., 135 12
Salt Pond, 10
San Francisco, 299 18
Sapeli, 12 10
Philadelphia, 32 10
Rosario, 13 7
Shanghai, 14 6
Sierra Leone, 238
Sydney, 4 4
Trinidad, 10
Vancouver, 60
Victoria, B. C., 440
" W.C.A., 14 1
Warri, 5

Salt Cake—
Baltimore, 40 t. 13 c. £61
Philadelphia, 100 13 150
Antwerp, 70 75
New York, 6 91

Saltpetre—
Cabedello, 1 t. 10 c. £37

Sheep Dip—
Santa Cruz, 7 t. 16 c. £250
Rio Gallegos, 23 8 2 q. 915
B. Ayres, { 25 16 / 25 cks. 30 cs. 1,063
Algoa Bay, 6 t. 5 c. 142
Natal, 8 16 103

Soap—
Addah, 100 bxs.
Alexandria, 60 45 cs.
Algoa Bay, 1,540 26
Amsterdam, 180
Assinee, 100
Banoka, 40
Barbadoes, 1,154
Batavia, 3,000
Bathurst, 45
Belize, 450
Benin, 200
Bombay, 614 94 10 dms.
Buguma, 200
Cabenda, 100
Calcutta, 26
Callao, 14 1
Cameroons, 280
Cape Coast, 50
Cape Town, 976 pks.
Cette, 20
Conakry, 150
Copenhagen, 40
Degama, 300
Delagoa Bay, 500
E. London, 127 623
Gibraltar, 812
Gd. Bassa, 50
Gd. Canary, 775
Guayaquil, 600
Hamburg, 300
Havre, 125
Hong Kong, 812
Iquitos, 100
Karachi, 22 305
Lagos, 130
Las Palmas, 300
Macassar, 60
Madras, 5
Manaos, 570
Menado, 1,000
Matadi, 218
Monrovia, 49
New York, 300 32
Old Calabar, 2,620
Opobo, 3,620
Pacasmayo, 1
Para, 200
Parnahyba, 17
Penang, 400 5
Pt. Elizabeth, 50
Pt. Natal, 2,277
Rio de Janeiro, 3
Rotterdam, 484 34 dms.
St. John's, N'fd., 270 1
St. Nazaire, 626 bdls.
St. Thomas, 900
San Juan, 300
St. Lucia, 100
Santa Cruz, 200
Sapeli, 751
Quittah, 104
Shanghai, 6,965
Sierra Leone, 10
Singapore, 100
Talcahuano, 10
Tangiers, 60
Teneriffe, 635
Trinidad, 1,486
Vera Cruz, 1
Victoria, W.C.A. 20
Warri, 751

Soda Alkali—
Corfu, 35 brls.
Melbourne, 16 pks. 11 dms.
Portland, 30
Smyrna, 32
Sydney, 17

Soda Ash—
Antwerp, 500 bgs.
Baltimore, 800 57 cks.
Barcelona, 30
Boston, 400 87
Brisbane, 180
B. Ayres, { 426 / 10 brls.
Copenhagen, 1,765 5
Genoa, 310
Hamburg, 190
Hiogo, 100 kgs. 713
Hong Kong, 52
Leghorn, 82 bgs.
Malta, 26
Maranham, 80 50
M. Video, 20
Newport News, 34 cs.
New York, 3,700 20 tcs. 151 pks.
Oporto, 4 cks.
Portland, 400 65
Puerto Cabello, 8
Rio de Janeiro, 100
Rotterdam 2,362
San Francisco, 122
Philadelphia, 4,620 231 131
Santos, 15 brls.
Shanghai, 8
Singapore, 10
Sourabaya, 50
Sydney, 259
Trieste, 312
Venice, 400 75
Yokohama, 100

Soda Crystals—
Boston, 100 bgs. 140 cks.
B. Ayres, { 60 kgs. / 100 brls.
Calcutta, 66
Iquique, 20
M. Video, 70
Newcastle, N.S.W., 67
New York, 140
Philadelphia, 25 140
Pt. Natal, 80
Rio de Janeiro, 20
Singapore, 2

Sodium Bicarbonate—
Adelaide, 25 bgs.
Alexandria, 20 kgs. 10 brls.
Algoa Bay, 14
Ancona 40
Antwerp, 105 31 cks.
Bari, 132
Bilbao, 2 cs.
Bombay, 60
Brisbane, 850
B. Ayres, 90 10
Cape Town, 25 8 bgs.
Colombo, 8 brls.
Constantinople, 80
Copenhagen, 20 31 pks. 9
Corunna, 7
Danzig, 32
Genoa, 70 3
Havana, 20
Havre, 50 brls.
Hiogo, 1,600
Hong Kong, 14
Karachi, 375
Libau, 100
Melbourne, 1,125
M. Video, 75 2 cs. 8
Pernambuco, 20
Philadelphia, 160 bgs.
Pt. Elizabeth, 20 brls.
Portland, 25 kgs.
Pt. Natal, 22
Rangoon, 25
Rotterdam, 20
Rouen, 66
Santander, 66 pks.
Singapore, 12
Smyrna, 30 bgs.
Sydney, 150
Tampico, 50
Trieste, 30
Valencia, 80 4
Vancouver, 3
Vera Cruz, 30
Yokohama, 1,500 89

Sodium Bichromate—
Syra, 5 cks. 2 brls.

Sodium Carbonate—
Bordeaux, 10 brls.
Boston, 56
New York, 56

Sodium Chlorate—
Newfairwater, 100 kgs.
Philadelphia, 100
Rotterdam, 100

Sodium Hyposulphite—
New York, 79 cks.

Sodium Silicate—
Rouen, 15 cks.

Sodium Stannate—
Babia, 3 brls.
Sodium Tannate—
Calcutta, 20 dms.
Starch—
Pernambuco, 30 bgs.
Sulphur—
Cabedello, 10 c. £5
Boston, 75 t. 1 324
Ghent, 10 1 46
Sulphuric Acid—
Mollendo, 1 t. £8
Superphosphates—
Venice, 49 t. 5 c. 1 q. £88
Alicante, 10 26
Las Palmas, 20 90
Varnish—
Bajada Grande, 7 cs.
Bombay, 4
B. Ayres, 5
Cadiz, 1
Cape Town, 9
Genoa, 6 cks.
Hamburg, 3
La Guayra, 1
Madras, 5
Melbourne, 45 5 dms.
M. Video, 7
Piræus, 1
Verdigris—
Hiogo, 8 c. 2 q. £23
White Lead—
Antwerp, 3 t. 8 c.
Bajada Grande, 2 6
New York, 96 kgs.
Pt. Elizabeth, 160
Yloilo, 10 cks
Zinc Chloride—
Oporto, 5 cks. £30
Bombay, 13 t. 151

MANCHESTER.

Period ending January 5th.

Alkali—
Tunis 25 cks.
Alum—
Alexandretta, 35 cks.
Djerba, 15
Ammonium Carbonate—
Rotterdam, 8 kgs.
Ammonium Sulphate—
Antwerp, 914 bgs.
Aniline Colours—
Rotterdam, 1 cs.
Aniline Oil—
Rotterdam, 10 dms.
Aniline Salts—
Rotterdam, 12 brls.
Bone Waste—
Antwerp, 107 bgs.
Carbolic Acid—
Alexandria, 1 cs.
Caustic Soda—
Tunis, 20 dms.
Copperas—
Beyrout, 135 brls.
Mersyne, 80
Tripoli, 30
Linseed Oil—
Alexandria, 6 brls.
Beyrout, 12
Naphthol—
Antwerp, 1 tin
Paint—
Alexandria, 1 kg.
Beyrout, 8 cs.
Paraffin Wax—
Hamburg, 2 cs.
Pitch—
Antwerp, 3 522 c.
Cette, 826 t.
Soap—
Hamburg, 1 ck.
Cairo, 20 bxs.
Soda Alkali—
Lattakia, 25 brls.
Sodium Bicarbonate—
Beyrout, 30 kgs.
Sodium Naphthionate—
Antwerp, 31 cks.
Toluol—
Rotterdam, 20 dms.
Turpentine—
Alexandria, 1 cs.

HULL.

Week ending January 1st.

Ammonium Sulphate—
Antwerp, 398 bgs.
Stettin, 500
Gothenburg, 26
Antimony—
Boston, U.S.A., 15 cks.
Chemicals (*otherwise undescribed*)
Antwerp, 10 cs.
Amsterdam, 50 cks.
Christiania, 21 2,036 slbs.
Hango, 2
Reval, 2 62 pks.
Hamburg, 40
Copenhagen, 2 6
Stettin, 9
Libau, 60
Rotterdam, 40
Gothenburg, 5 36
Cottonseed Oil—
Amsterdam, 627 c.
Bremen, 39
Antwerp, 681
Christiansund, 51
Dunkirk, 190
Hamburg, 374
Copenhagen, 33
Konigsberg, 100
Stettin, 10
Rotterdam, 100
Gothenburg, 101
Dyestuffs (*otherwise undescribed*)
Dunkirk, 1 cs.
Hamburg, 1 ck.
Linseed Oil—
Antwerp, 105 c.
Christiansund, 18
Christiania, 98
New York, 160
Hamburg, 59
Rotterdam, 45
Painters' Colours—
Antwerp, 18 cks.
Amsterdam, 117 1 cs.
Boston, 25 dms.
Christiania, 4 pks.
New York, 60
Hamburg, 27 1
Copenhagen, 5
Libau, 5
Gothenburg, 1 1
Pitch—
Dunkirk, 205 t.
Soap—
Hamburg, 1 cs.
Tar—
Antwerp, 1 ck.
Dunkirk, 7
Stettin, 14 t.
Turpentine—
Helsingfors, 15 cks.
Varnish—
Antwerp, 1 ck.
Hamburg, 3 cs. 1 dm.

GLASGOW.

Week ending January 6th.

Alum—
Turkey, £40
Ammonium Sulphate—
Rotterdam, 10 t. 4 c.
Kingston, Jam., 5 1
Arsenic—
Natal, £25
Asbestos—
Valparaiso, £20
Bisulphite of Lime—
Madras, £23
Bleaching Powder—
Calcutta, 78 t. 3¾ c.
Boracic Acid—
Adelaide, £25
Borax—
Hamburg, 5 t.
Natal, £36
Carbolic Acid—
Bombay, £48 10s.
Coal Products—
Creosote Oil
Bordeaux, 332 t.
Pitch
Havre, £450
Amsterdam, 250 t.
Tar
Bombay, £70
Coal Products (*otherwise undes.*)—
Rotterdam, £25
" 10 t.

Copperas—
Madras, £20
Bombay, 118
Extracts—
South Australia, £20
Lead Acetate—
Bombay, £68
Linseed Oil—
Klang, 3 t. 19¾ c.
Christiania, 7¾
Cape Town, 18
Natal, 2 14
Litharge—
Johannesburg, £21
Magnesium Sulphate—
Bombay, £23 12s.
Manure—
Jersey, 412 t.
Molasses—
Rotterdam, £36
Paint—
Christiania, £12 12s.
Bloemfontein, £142
Painters' Colours—
Adelaide, qty.
Algoa Bay, "
Cape Town, "
Melbourne, "
Sydney, "
Paraffin Wax—
Bombay, £35
Singapore, 53
Christiania, 60
Rotterdam, 75
Turkey, 30
Potash Salts—
Brisbane, £105
Delagoa Bay, 209
Potassium Bichromate—
Antwerp, £149
Ghent, 45
Potassium Chlorate—
Sydney, £175
Potassium Cyanide—
Salaverry, £134
Adelaide, 240
Sydney, 160
Salt—
Sydney, 8 t.
Sheep Dip—
Punta Arenas, £40
B. Ayres, 150
Soap—
Bombay, 3 t. 19½ c.
Algoa Bay, 1 15¼
Barbadoes, 1 2¼
Sodium Bichromate—
Antwerp, 18½ c.
Ghent, 3 t. 14½
Tallow—
Rotterdam, 8 t. 7 c.
Treacle—
Christiania, 27 t. 12¾ c.
E. London, 3 16
Turpentine—
Klang £39
White Lead—
Algoa Bay, £33 10s.
B. Ayres, £53
Sydney, 50

TYNE.

Week ending January 1st.

Alkali—
Amsterdam, 49 t. 9 c.
Bergen, 2 16
Alum—
Antwerp, 6 c.
Samarang, 6 t.
Alumina Sulphate—
Antwerp, 2 t. 13 c.
Ammonium Carbonate—
Hamburg, 16 c.
Bergen, 15
Ammonium Sulphate—
Valencia, 794 t. 12 c.
Antimony—
Copenhagen, 6 c.
Rotterdam, 5
Gothenburg, 10
Arsenic—
Christiania, 10 c.
Barium Binoxide—
Trieste, 1 t. 15 c.
Antwerp, 7 11

Bleaching Powder—
Gothenburg, 5 t. 1 c.
Trieste, 1 8
Amsterdam, 37 19
Antwerp, 15 12
Rotterdam, 11 13
Copenhagen, 37 2
Caustic Soda—
Trieste, 10 t. 3 c.
Hamburg, 1 14
Antwerp, 20 2
New York, 10 3
Barcelona, 16 18
Rotterdam, 1
Stockholm, 9 16
Samarang, 11 12
Copenhagen, 13 4
Gypsum—
New York, 36 t. 15 c.
Litharge—
Hamburg, 1 t. 9 c.
Amsterdam, 5
Stockholm, 5 18
Magnesia—
Antwerp, 7 c.
Barcelona, 9 t. 17
Hamburg, 16
Paint—
Hamburg, 1 t. 10 c.
Rotterdam, 5
Pyridine—
Hamburg, 1 t. 9 c.
Soda—
Christiania, 17 t. 5 c.
Antwerp, 5
Stockholm, 22 11
Bergen, 17 15
Soda Ash—
Trieste, 4 t. 1 c.
Copenhagen, 11 17
Sodium Hyposulphite—
New York, 10 t.
Antwerp, 2 2 c.
Sulphur—
Gothenburg, 10 t
Christiania, 100
Superphosphates—
Valencia, 96 t. 2 c.
White Lead—
New York, 31 t. 7 c.
Stockholm, 8 3
Copenhagen, 4 12

GOOLE.

Week ending December 29th.

Benzol—
Hamburg, 75 cks.
Chemicals (*otherwise undescribed*)
Hamburg, 50 dms.
Coal Products (*otherwise undes.*)—
Ghent, 2 cks. 1 pk.
Hamburg, 1
Rotterdam, 28 1 cs.
Dyestuffs (*otherwise undescribed*)
Ghent, 1 cs.
Manure—
Antwerp, 285 bgs.
Ghent, 296
Pitch—
Dunkirk, 250 t.
Antwerp, 683
Salt Cake—
Ghent, 150 t.

GRIMSBY.

Week ending January 1st.

Alkali—
Hamburg, 10 cs.
Rotterdam, 5
Caoutchouc—
Malmo, 2 bls. 2 cs.
Chemicals (*otherwise undescribed*)
Dieppe, 3 cks.
Malmo, 20 kgs.
Rotterdam, 86 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 60 cks. 1 cs. 100 brls.
Hamburg, 4 btls.
Colours—
Antwerp, 1 ck. 2 kgs.
Hamburg, 3 2 brls.
Port au Prince, 2 124
Rotterdam, 9

PRICES CURRENT. WEDNESDAY, JANUARY 12TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¼
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	0	11
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	21	5	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	2	6
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	33/-	&	31/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	15	0
„ „ (grey) Hull	„	9	15	0
Aniline Oil (pure)	per lb.	0	0	7
Aniline Salt „	„	0	0	6½
Antimony	per ton	30	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	6	0	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	4½
„ 50/90 „	„	0	1	7
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7¼
„ (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8½
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	0	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	8
Copper	per ton	48	15	0
„ Sulphate	„	16	12	6
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	10	0
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	9
„ „ Miscible, 60° O.P	„	0	3	8
Oils:—				
Cotton-seed	per ton	15	5	0
Linseed	„	16	0	0
Stearine	per ton	22	0	0
Phosphorus (yellow)	per lb.	0	2	0
„ (red)	„	0	2	9
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	4¼
„ Carbonate, 90% (ex ship)	per ton	16	5	0
„ Chlorate	per lb.	0	0	3⅝
„ Cyanide, 98%	„	0	1	2
„ Hydrate (Caustic Potash) 90 %	per ton	23	10	0
„ „ (Caustic Potash) 75/80 %	„	19	10	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	10	0
Silver (metal)	per oz.	0	2	2 11/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
„ „ (Caustic Soda-ash) 48 %	f.o.b. w'ks.	4	5	0
„ „ (Carb. Soda-ash) 48%	f.o.b. w'ks.	4	0	0
„ „ (Alkali) 58 %	f.o.b. w'ks.	3	17	0
„ „ (Soda Crystals)	f.o.b. w'ks.	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4⅜
„ Borate (Borax)	net, per ton.	13	5	0
„ Bichromate	per lb.	0	0	3⅝
„ Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton, 10 ton lots	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ 10 ton lots	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ 10 ton lots	7	2	6
„ „ (60 % Caustic Soda)	„ „ „ 10 ton lots	6	5	0
„ „ (pure liquor 90° Tw.)	„ „ „ 10 ton lots	3	12	6
„ „ 77/78 % powdered (99 % hydrate)	„	12	5	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
„ Nitrite, 98 %	per ton	26	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅜
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow (Beef)	„	18	10	0
Tin Crystals	per lb.	0	0	4¾
„ English Ingots	per ton	66	5	0
Zinc (Spelter)	„	18	0	0
„ Chloride (solution. 100° Tw.)	„	5	15	0
„ Sulphate, Crystal	„	5	15	0

THE

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AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

THE past year has not been rendered specially conspicuous by any startling discovery of a scientific nature, though it has had its surprises; but for all that we venture to say that it will mark the opening of a new era in the scientific development of the country.

The very fact of 1897 having been the year in which we commemorated the longest reign of any British sovereign has caused it to be a year of retrospection, and the past 60 years have been surveyed from almost every conceivable standpoint. At the same time, many of our existing systems and institutions have been examined and criticised in a similar manner. The very fact of looking back at the "has been" prompts inquiry into the fitness of the conditions "that be," and some of the comparisons which have been drawn in this way have not been very flattering. Yet, even if the tendency to carp has at times preponderated, there is no doubt that the general overhauling will not prove fruitless in many directions. The success which has followed us in industrial matters during the years in which we have trusted mainly to the belief in our ability to come to the top, no matter how great the odds, is no longer as apparent as it used to be. Our competitors have proved themselves such in real earnest by supplementing natural sagacity and business aptitude with specialised training in the theory, as well as the practice, of industrial enterprises.

The introspections of the past year, however, seem to have brought this home to us, and there is a more widespread feeling than ever that we must abandon speculative enterprise and haphazard management for well planned departures based on carefully calculated *data* and controlled with scientific precision even in details. In consequence, research work is steadily taking a more recognised place, and the

ADVANCES OF SCIENCE

are looked upon as important factors in the development of the most everyday things.

When looking at the work of the past year in pure science, this is very apparent, for though it has been research work of the highest order, yet it is not without interest from a more sordid viewpoint. The derivatives of camphor have been further investigated by F. S. Kipping and A. Lapworth, and also by M. O. Forster. Lord Rayleigh has been studying the oxidation of nitrogen and the viscosity of hydrogen as affected by moisture; electrolysis has benefited by the experiments of Callendar and Barnes on the E.M.F. of different forms of the Clark cell; sodamide and its substitution derivatives have been investigated by A. W. Titherley, and W. T. Lawrence has been working at the synthesis of citric acid. Lastly analytical chemistry is the richer by L. Snape's study of magnesium nitrite as a re-agent; while A. Scott has devoted his attention to the mixed sulphates of the vitriol group.

It is doubtful how far we are justified in mentioning Dr. Emmen's work on his "Argentaurum," as, although it has been attracting fresh interest during the last few months, it is a long time since it made its *début*. Naturally the foregoing represents only a very limited selection from the research work that has been carried out, but coupled with the further references we shall make under the heading of

TECHNOLOGY

it goes, we think, as far as the scope of our retrospect will allow.

As foreshadowed in the opening remarks, technical education and the extension of secondary education are two subjects that have been well ventilated during the past year. If the fervour—not to say heat—of the discussions on these questions is any guide it would seem to show that the ventilation was needed. Not a little has been said about the advantages of the German systems, and, regardless of the fact whether their wholesale adoption in this country would be beneficial or not, there is no doubt that the rather odious comparisons which have been drawn have done good. There are signs that those responsible for the present conditions are, at all events, desirous of reconsidering their old-time methods. It is a noteworthy fact that the London Technical Education Board, in reporting on the prospects of the current session is able to state that, although four new polytechnics have been opened during the last four years in the districts under the control of the Board, the attendances at the older centres have not decreased, and the entries for this session have increased; so that now about 18,000 individual students are systematically studying their trades.

Nevertheless, it is important to impress young chemists with the fact that the essential principle of successful work is to try and establish the truth. Honesty, however compromising, is the only sure foundation of substantial progress. The highest accuracy and unstinted personal responsibility are as absolutely essential in the study of commercial products as in the revision of atomic weights.

Among the numerous technical advances of 1897, one of great significance was the opening of the new Government Laboratories. Formerly the would-be physician stood in much need of healing, but now this reproach has been removed in a manner that affords instruction to many other reformers.

As usual, we shall not attempt to refer to all the technological features of the year. To a large extent this has already been done in our industrial reviews of 1897, but it is desirable to refer to a few of the most interesting branches of technical research, if we may be allowed to use the definition. The effects of electrical discharges on resin, and resin and oil compounds, has been engaging the attention of J. W. Swan.; Messrs. Jung & Steuer have devised a method of recovering hydrochloric acid from the waste calcium chloride liquors of the ammonia soda process; Dr. Perkin has been enlightening the dyeing industry by his work on the derivatives of Maclurine, one of the colouring matters of old fustic, and also the yellow principles of various tannins; while an interesting study of the properties of nitrobenzene has been made by R. W. Friswell. Another development of technical interest has been the further progress in colour photography, as typified by the processes of M. Chassagne and Mr. Bennetto. Persulphates and percarbonates have also been much to the front, while the further endeavours to produce artificial indigo, commercially, must not be forgotten. We hardly know under which heading sewage process and schemes can most suitably be treated, but perhaps the

CHEMICAL AND ALLIED INDUSTRIES

will be the best. They have certainly been greatly to the fore, and are likely to play a prominent part during the next 12 months. The questions of standards and testing effluents are at present of pressing importance, and it is to be hoped that by this time next year we shall be able to report substantial progress towards unanimity. One upshot of the existing divergence of opinions has been the formation of a Sewage Defence Committee to guard pollutors against the enforcement of too rigorous reformatory measures.

Taking a comprehensive view of the events of the year, one of the most striking incidents has been the Armstrong-Whitworth amalgamation. The new comer, calcium carbide, has had its battles to fight over the question of storage, in which all the advantages and brilliancy of acetylene as an illuminant could not secure it anything more than a partial victory. The chemical trade has been engrossed in the study of the new U.S.A. Tariff Bill, and the probable effects of the concentration of electro-chemical processes round Niagara, while the possibilities of the chemical trade in Russia have become a subject of more than passing interest. The controversy on the dangers of water gas has attracted considerable attention, while the dangers attending the unrestricted sale of low flash burning oils seem to have been recognised at last. In this direction also the use of petroleum-spirit hair washes has not escaped attention. The administration of the Salt Subsidences Compensation Act has been another topic of interest. The relative positions of ammonium sulphate and nitrate of soda as fertilizers have been discussed, and as we only use one sixty-sixth of the nitrogenous fertilizers that could be used to advantage in this country it would seem that there is ample room for both in Great Britain.

Many interesting business changes have taken place, and the following firms have been converted into limited liability companies:—Messrs. the Broughton Copper Company, Ltd; J. H. Cookson and Son, Ltd.; Dee Estates, Ltd. (new company); Kynochs, Ltd.; Lennox, Reynolds, & Fyfe, Ltd.; Phillips, Hoskins, & Co., Ltd.; A. R. & T. Robinson, Ltd.; Shotts Iron Company, Ltd.; H. H. Vivian & Co., Ltd.; West Norfolk Farmers' Manure Company, Ltd; and W. H. Wilcocks, Ltd. At the same time the reconstruction of the Welsbach Incandescent Lighting Company, Ltd, and the amalgamation of the two companies exploiting the Kent coalfields, should be mentioned.

Among the important trade lawsuits, those of Peebles *v.* Oswaldtwistle District Council; Magnolia *v.* Atlas Metal Company, Ltd; Badische Aniline and Sodafabrik *v.* Basle Chemical Works, and Bindschedler; and the Commercial Development Corporation *v.* Castner-Kellner Alkali Co., call for special mention, the latter promising to open an interesting patent litigation. The passage from this case to the subject of

PATENTS IN 1897

is but natural. The year was a record one as regards the number of applications for provisional protection, the total having been 30,936, as against 30,194 in 1896, while it is possible that it may reach 30,950 when all the foreign applications, and entitled to rank as 1897 patents, are to hand. As might be expected, electro-chemical patents are well to the fore. The actual figures are as follow:—*Chemical Processes*, 373; *Chemical Apparatus*, 168; *Electro-Chemical Processes*, 32; *Electro-Chemical Apparatus*, 60; *Oils and Fats*, 23; *Boiler Disincrustants*, 10; *Artificial Stone*, 5; *Paints and Pigments*, 32; *Soap*, 26; *Explosives*, 26; *Sewage*, 67; *Smoke Prevention*, 32; *Artificial Fuel*, 23; *General Hygiene*, 22; *Manures*, 21. By comparing these figures with those given in the *Journal* No 504, p. 34, it will be an easy matter to see which sections have fluctuated, though increases are for the most part the general rule.

LEGISLATION

has not been of a very serious nature as far as the actual passing of Acts is concerned, but a number of important Bills affecting the interests of the chemical and associated industries have been under consideration. The most important have been the Rivers Pollution Prevention Bill, Patent Office Extension Bill (became an Act), Miners' Eight Hours Bill, Boiler Inspection and Registration Bill, two Amendments of the Food and Drugs Act, the Employers' Liability Amendment Bill, and the Education Act (1887) Amendment Bill. The feature of the year in this connection has been the proposed reform of the Patent Laws. Several defects have been very strongly taken up by various Chambers of Commerce, and test cases, we understand, will be tried in the near future. When these have been completed, it is probable that considerable prominence will be given to the question of Patent Law reform in Parliament, as there will be definite facts and figures with which to support the complaints so airily waived by Mr. Ritchie in the early months of last year.

In conclusion there are a few

MATTERS OF GENERAL INTEREST

that we have yet to deal with, but which cannot well be classed in any of the preceding sub-divisions.

The number of industrial undertakings offered to the public has been considerable. Certainly, from a financial point of view, the year has essentially been an industrial one. The total capital offered for subscription amounted to 158½ millions sterling, of which nearly 44½ millions were asked for commercial and industrial undertakings. Electric companies ranked for a little more than 1½ millions, nitrate companies being at the bottom with £82,000 only. With the exception of the year 1889, the total capital offered was the largest on record.

The great fire, which will stand second to the Fire of London only in the annals of history, has taught a good many lessons, some of which it is evident we shall profit by at once. The Fire Appliances Congress has also received much impetus from this event. The London Chamber of Commerce began a crusade against illicit commissions in February last year, but as far as we can learn it is not progressing very fast. It is possible that some little difficulty was experienced in putting out the home washing while this Spring cleaning was in preparation. The Snaefell disaster was one of the most lamentable incidents of the year and revealed in a very painful manner the necessity of making the use of respirators and oxygen masks more general, especially in rescue work. During the year the Oxygen Home has done a great deal of interesting and highly beneficial work by the treatment of permanent sores, ulcers, and the like with oxygen—work which is full of promise for the future. The Shoreditch Vestry have shown what can be done in the way of turning towns' refuse into electricity at a profit, while motor vans for scavenging work are rapidly finding favour with public authorities.

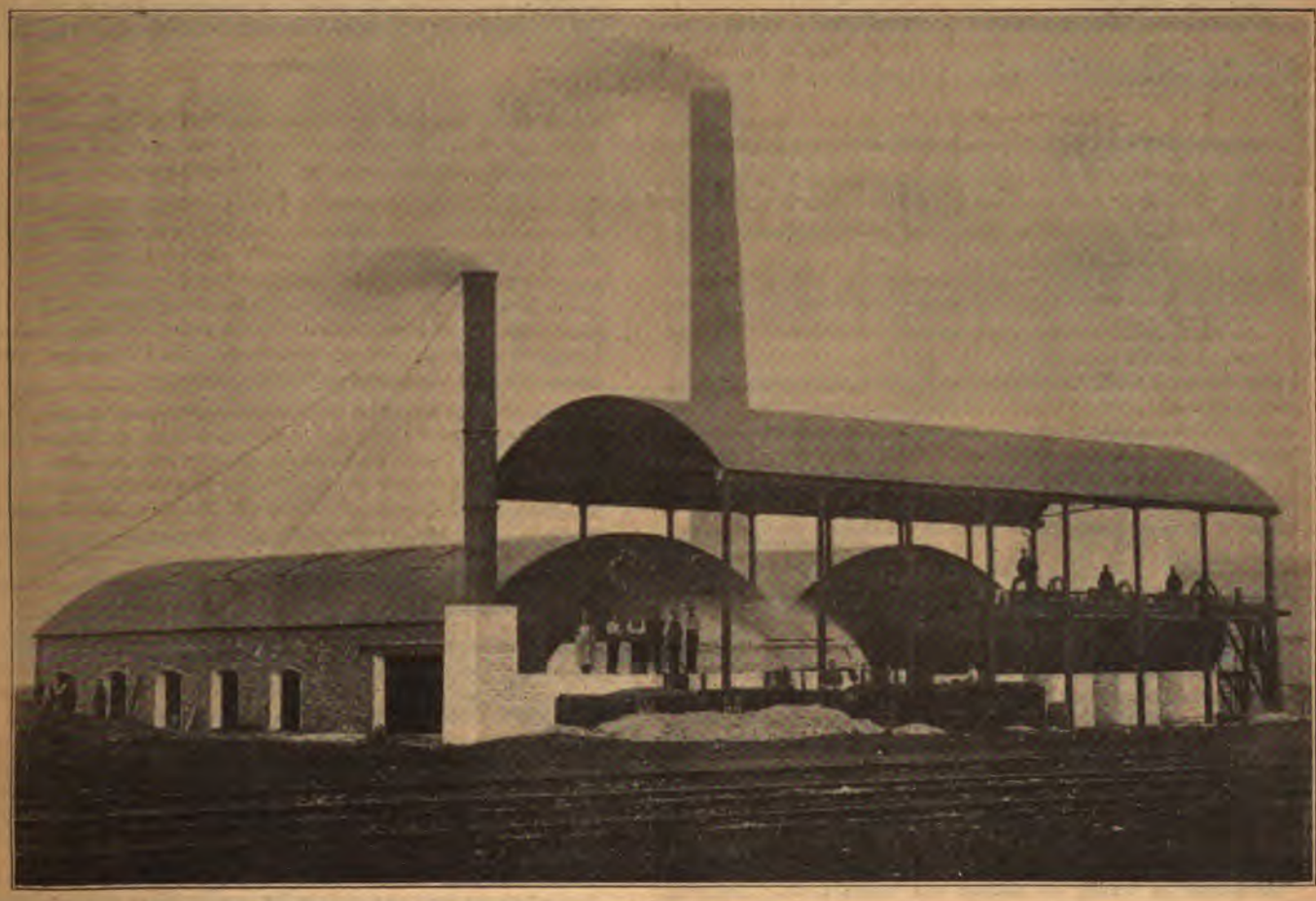
And so we come once more to the present, with only the future to consider. The outlook for the heavy chemical trade is not brilliant, but taking all things together it may be safely said that if matters are no worse this year than they were last—engineers' strike or no engineers' strike—there will not be much room for regret this time next year.

A RECENT CHLORATE PLANT.

THE accompanying illustration represents the latest addition at the extensive works of The Electro-Chemical Co., Ltd., St. Helens. The buildings contain all the necessary, and most modern plant and machinery for the manufacture of chlorate of potash. The walls are carried up in brickwork, with ample doorways for communication to other parts of the works. The floors are laid in concrete and cement. These buildings are spanned by two corrugated iron roofs, with large skylights. The open shed, likewise, has a corrugated roof supported by iron columns. The plant has been working most successfully for some weeks, and is capable of turning out 10 tons of chlorate per week.

Messrs R. Daglish & Co., St. Helens, erected the buildings and plant, and gave great satisfaction to the Company by the speedy and efficient manner in which they carried out their contract. The buildings, roofs, and plant were made, built, and erected in nine weeks from date of order.

The boiling pans and absorbers are seen in the open shed, and the other sheds contain the crystallizers, wells, pumps, filter presses, and other necessary plant.



SOCIETY OF CHEMICAL INDUSTRY—*Liverpool Section.*—The next meeting of the section will be held in the Chemical Laboratories, University College, on Wednesday, January 26th, 1898, at 7 p.m. Business: 1, Miscellaneous Communications; 2, paper on "Some experiments on the manufacture of cyanides," by Dr. J. T. Conroy.

MESSRS. W. OXLEY AND CO.—This firm have recently prepared a new catalogue, which can be had by sending a post card to Tudor Works, Pendleton. It is nicely got up and contains much useful information on storage, blending, retailing, and settling tanks for oils, paints, and varnishes. Accessories for soap makers and calico printers, such as pumps, shoots, colour mixers, carboy barrows, &c., are also described. Considerable space is devoted to fire appliances.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Electrolytic Diaphragms. J. W. Towers. 16. Jan. 1.
Producing Calcium Carbide. J. Leede. 32. Jan. 1.
Logwood Extract. J. Y. Johnson. 75. Jan. 1.
Improved Filter Presses and Cloths. J. C. Montgomerie. 81. Jan. 3.
Anti-corrosive Paint for Metals. W. Peel 110. Jan. 3.
Separating Salts and Generating Electricity. D. F. Sinclair. 122. Jan 3.
Treating Sewage. F. Eichen. 149. Jan. 3.
Treating Sulphurous Gases. A. C. Southwell. 157. Jan. 3.
Extracting Fish Oils. J. Spencer. 198. Jan. 4.
Manufacture of Acetic Acid. E. G. Scott. 233. Jan. 4.
Producing Acetic Acid. H. Plater-Syberg. 213. Jan. 4.
Treating Copper, Zinc, and Lead Ores. G. de Bechi. 285. Jan. 5.
Recovering Precious Metals. H. Wethered. 347. Jan. 5.
Treating Distillation Products from Carbonaceous Materials. C. D. Abel. 408. Jan. 6.
Manufacture of Calcium Carbide. F. H. Haviland and J. Farmer. 472. Jan. 7.
Treating Zinc Ores. A. Philip. 484. Jan. 7.
Bleaching Guttapercha. F. T. Addyman & J. A. Gardner. 538. Jan. 8.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Purification of Sewage and Polluted Waters. F. P. Candy, Ivy Bank, Ashley-road, Bowdon. Eng. Pat., 27,512. Dec. 3, 1896.

This patent refers to certain improvements in apparatus for screening sewage. A semi-circular grid is fixed at the bottom of the tank, and a series of arms or rakes, shod with rubber, revolve on a central shaft, so as to continually scrape the surface of the grid and keep it clean. These rakes may be mounted on the periphery of an under-shot water wheel, which supplies the necessary power. The rest of the patent has reference to a system of lateral filters and settling tanks in which the water, instead of passing in a thin layer over a sill, passes through a series of exits in the division walls of the tanks. In all there are eleven figures.

Improvements in the Manufacture of Chlorine. J. Hunt, of Myrod House, Wednesbury, and E. F. Watson, 11, Church-street, Wolverhampton. Eng. Pat., 29,066. Dec. 18, 1896.

The proto-chloride of iron solution, known as galvanisers' waste pickle, is electrolysed in a cell composed of metal or a non-conducting material. It contains a porous vessel, or is divided into two halves by a porous diaphragm. In one division a rod of carbon is placed, and surrounded with brine. In the other division cathodes of iron (unless a metallic vessel is used) are surrounded with the spent pickle. On passing an electric current chlorine is evolved from the anode and pure iron deposited on the cathode. Before electrolysing, the free acid in the pickle is neutralized with scrap iron, and any ferric chloride present, decomposed by heating the solution with excess of iron. There are four figures.

Improvements in the Methods of and Apparatus for Water Purification. J. S. McDougall, High Bank, Didsbury. Eng. Pat.,, 29,223. Dec. 19, 1896.

In order to purify condensed water an arrangement of tanks is employed, in which the water can be heated to boiling point by a steam coil. Calcium chloride is then added (sometimes mixed with some quicklime) which causes the oil to separate in a form that can be readily removed by filtration. Subsequently, to throw down the lime a mixture of caustic and carbonated soda is added. The precipitants are added from small tanks situated above the precipitating vessel. There are two figures.

Improvements in the Means Employed in the Electrolytic Production of the Chlorates of Sodium and Potassium. T. Parker, Manor House, Tettenhall, Wolverhampton. Eng. Pat., 25,631. Nov. 14, 1896.

The cell consists of an iron vessel which forms part of the circuit, and is protected from the action of the chlorine by the sodium, etc., which is deposited on it, since it acts as the cathode. No diaphragm is used, and the electrolyte, which consists of brine or potassium chloride, is kept at a temperature of 30° to 40° C., and covered with cork chips or finely powdered pumice. A number of carbon anodes are immersed in the electrolyte, and are all connected in a simple manner, as shown in the three figures which accompany the specification.

Process for Manufacturing Black Pigments from Carbonaceous Materials. R. Strobentz, 89, Ullöerstrasse, and J. Fried, of 69, Ullöerstrasse, both of Budapest. Eng. Pat., 21,718. Sept. 22, 1897.

The patentees have found that when certain brown lignites are well ground, mixed with solutions of ferrous sulphate, ferric chloride, etc., and dried, a substance suitable for use as a pigment can be produced. If a good black is not obtained in this way the depth of colour can be increased by the addition of tannic or gallic acids, which form a black precipitate with the metallic salts. For general purposes 10 parts of a 3 to 1 solution of ferrous sulphate are used with 100 parts of lignite.

THE LUMIERE CINEMATOGRAPH CAMERA.—We are advised by Messrs. Fuerst Bros., of 17, Philpot Lane, E.C., that the price of this camera has now been reduced to £40. The camera is capable of photographing, copying, projecting, and reversing animated pictures.

MESSRS. H. F. LOVE AND CO.—This firm, who are acting for the proprietors of one of the richest talc mines on the Continent, state that they are in a position to supply French chalk—*i.e.*, steatite or soapstone—of the finest and purest quality at the lowest possible rates consistent with purity. They will be pleased to forward samples and quote, either for immediate delivery or on contract, for direct shipment throughout the year, c.i f. any port in the United Kingdom. Their address is 41, Bishopsgate-street Within, London, E.C.

SOCIETY OF CHEMICAL INDUSTRY—*Nottingham Section.*—The fourth meeting of the session will be held on Wednesday, January 26th, at the Queen's Hotel, Burton-on-Trent, at 7-30 p.m., when Mr. J. Golding will read a paper entitled, "Notes from some of the technical laboratories in Copenhagen." There will also be a discussion on R. M. Caven's and Alfred Hill's paper on "The estimation of cuprous oxide by means of standard potassium permanganate solution." A convenient train leaves Nottingham. G.N., at 6-10, arriving at Burton 7.20, and returning from Burton, Mid., at 8-57 and 9-45.

CATALOGUE OF GAS HEATING APPLIANCES.—Messrs. Fletcher, Russell and Co., Ltd., of Thynne-street, Warrington, have sent us a copy of the 3rd section of their laboratory and furnace appliances catalogue. It is tastefully got up in embossed green boards, and is excellently printed in black and sepia-brown inks. The illustrations are as good as any we have ever seen for catalogue work. All classes of blow-pipes, muffles, gas-burners, fittings, water-heaters, safety Bunsen burners, and metal furnaces, are described. It is a catalogue that is well worth sending for and inspecting carefully.

ANOTHER LOW-FLASH VICTIM.—On Wednesday Mr. Wynne E. Baxter, coroner, held an inquiry at the London Hospital respecting the death of Alfred Henry Wood, aged 12 years, the son of a general dealer, of 31, Robeson-street, Mile End. Alfred Augustus Wood, the father, stated that on Saturday night the lamp was accidentally upset. The deceased rushed to the cot, where he thought the baby was lying, and, snatching up the burning clothing, cried out, "I have got him." The child, however, had been previously taken out by his mother. Mr. Thomas Nunan, Inspector under the Petroleum Act, stated that the flashing-point of the oil was 78 degrees Abel. To bring it within the operation of the Act the flashing-point would have to be 73 degrees. The London County Council recommended that the flashing-point be raised to 100 degrees F., in order to render the oil perfectly safe. The jury returned a verdict of accidental death.

THE BOWERS DRIER AND CARBONISER.

WE recently had the pleasure of seeing one of these driers in trial operation at Mr. Bowers' works. It consists of a long chamber, the sides of which are of brick (for heat-retaining purposes), while the floor and roof are of cast iron. The floor is divided by ribs, running parallel with the length of the chamber, into four divisions, forming shallow troughs, and an endless chain is caused to work continuously through all four divisions. This chain is provided at intervals of about six inches with scraper bars fixed at right angles to the length of the chain, and just long enough to clear the ribs above mentioned. The chain is kept in motion by means of sprocket wheels, and at each end of the furnace, where its direction of motion is reversed, due provision is made to prevent the material treated from escaping the carrying action of the scraper bars. Means are also provided for tightening the chain if necessary without any suspension of operations being involved. At each end of the retort are large doors which can be opened in less time than it takes to write this, and which allow of complete access to the interior. The sawdust or other material to be carbonised is automatically fed into the retort, is at once taken charge of by the scraper-bars on the travelling chain, and is carried backwards and forwards

Fig 1

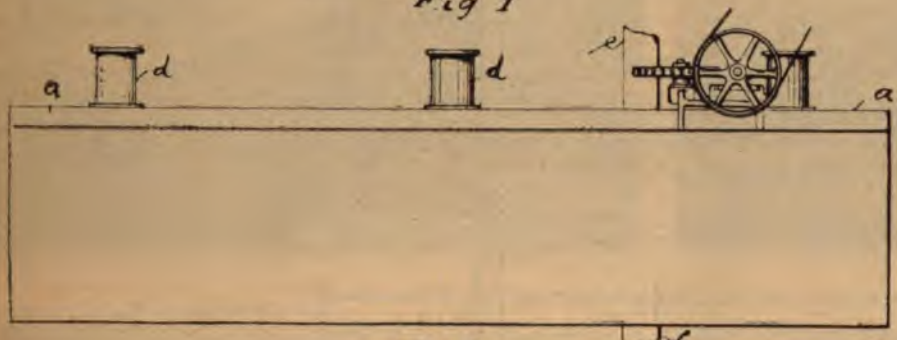


Fig. 3

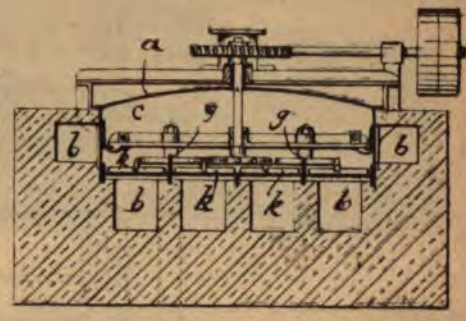


Fig 2

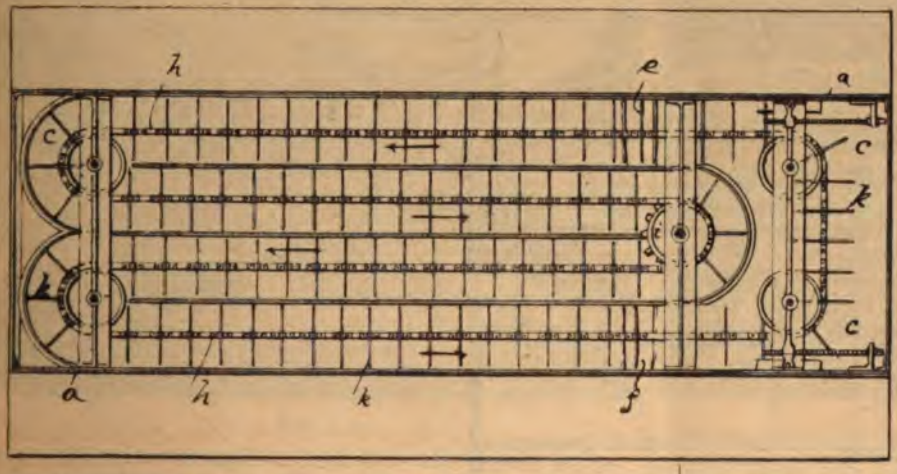
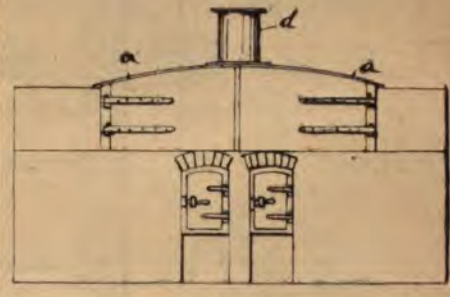


Fig. 4



along the retort bed till it has traversed the full length of each division, when it drops out from a suitable opening, completely carbonised and deprived of its volatile constituents. Meanwhile the latter have escaped through the exit provided in the retort roof.

The heating of the retort is effected by two fire-places situated under the cast iron floor. The products of combustion from each fire-place travel twice the length of the floor in flues below, and special means are adopted to secure, as far as possible, a thorough and equal distribution of the heat.

We have no doubt that the courtesy of Mr. Bowers which permitted our visit of inspection will be equally extended to any of our readers having a *bona fide* interest in the subject.

Legal Intelligence.

HIGH COURT OF JUSTICE—CHANCERY DIVISION.

(*Before Mr. Justice Stirling.*)

WEBB V. LEVINSTEIN.

On Friday last week, Mr. Terrell, Q.C., moved in the action of *Webb v. Levinstein* for an injunction to restrain the defendants from threatening Messrs. Burtles (manufacturers for the plaintiff) for making a certain form of glass vitriol rectifying vessel. Mr. Clare, Q.C., objected on the ground that the acton for an injunction was premature. On November 30th ult., defendants wrote to Messrs. Burtles, "We understand you are infringing our patent and we should like to know what it is you are doing; if you are infringing, then we may have to proceed against you." That letter reached Burtles on December 1st, and the same day was sent on to plaintiff who, on December 3rd, issued his writ in this action. Counsel contended that when a patentee makes a statement like the one in the letter, there is nothing to justify immediately bringing an action for threats.

Mr. Justice Stirling: Having regard to the position of Burtles, I should expect Mr. Terrell to say he could give an admission that they are making this particular form of glass apparatus.

Mr. Terrell: There is no doubt they are doing so. They have made thousands for us, and we have indemnified them against this action or any other action, so that we are the real people who ought to be hit.

Mr. Justice Stirling: There will be no difficulty now in your getting ample evidence on which to start an action, for you have had produced to you on affidavit the actual thing that plaintiff says has been manufactured by Messrs. Burtles. You can therefore write and say—"We should be glad to know if this thing which has been sworn to as your manufacture is really such, and if you do not reply we shall proceed against you."—Mr. Clare asked for a month.

Mr. Justice Stirling: I will give you a fortnight, and in the meantime no more threats. I will extend the time if necessary.

THE TREATMENT OF WORKS' EFFLUENTS

THE want of an efficient and easily controlled plant for the purification of the wash and waste waters discharged in manufacturing operations is constantly being encountered; and the difficulty of deciding what is the best course to take is in many cases the *bête noir* of manufacturers.

There is little doubt that the tendency of public authorities towards excluding manufacturers' waste waters from the sewers is a growing one Such a prospect does not improve matters for manufacturers, and consequently any information concerning the cheap and successful treatment of waste waters is of growing rather than diminishing interest.

Rather more than two years ago we gave a description of the "Archbutt-Deeley" process for the softening and purification of hard and dirty water supplies. At the same time we recorded the impressions of an inspection of the plant, as made by Messrs. Mather and Platt, Ltd., Salford Ironworks, Manchester, and applied to the treatment of works' effluents. As, however, this departure was only in the early stages of development, we intentionally refrained from giving special prominence to it until the test of time had shown how far it was dependable. Moreover, it was not fair either to commend or qualify the process according to the results obtained in isolated cases and with only one particular kind of effluent. We saw enough, however, to convince us that the process was one that should not be lost sight of, and consequently we kept a watchful eye on its progress, with the result that we are now able to present a record of the process that is worthy of the close attention of manufacturers.

SOME IMPORTANT POINTS.

There are several points that call for special attention. In the first place, it is now treating successfully 10 million gallons a day, this amount including a variety of effluents from bleaching, dyeing, calico-printing, paper-making and wool-washing works. As the standards of purity for effluents are high in those counties that form the centre of these industries, and are actively enforced by close inspection and the law, the following is very important. It not unfrequently happens that owing to some extraordinary conditions the quality of the waste water is exceptionally (though temporarily) bad, and this fact is not discovered until after treatment, when the effluent is found to be below the mark. In many systems there is nothing for it but to let it go, and, as luck

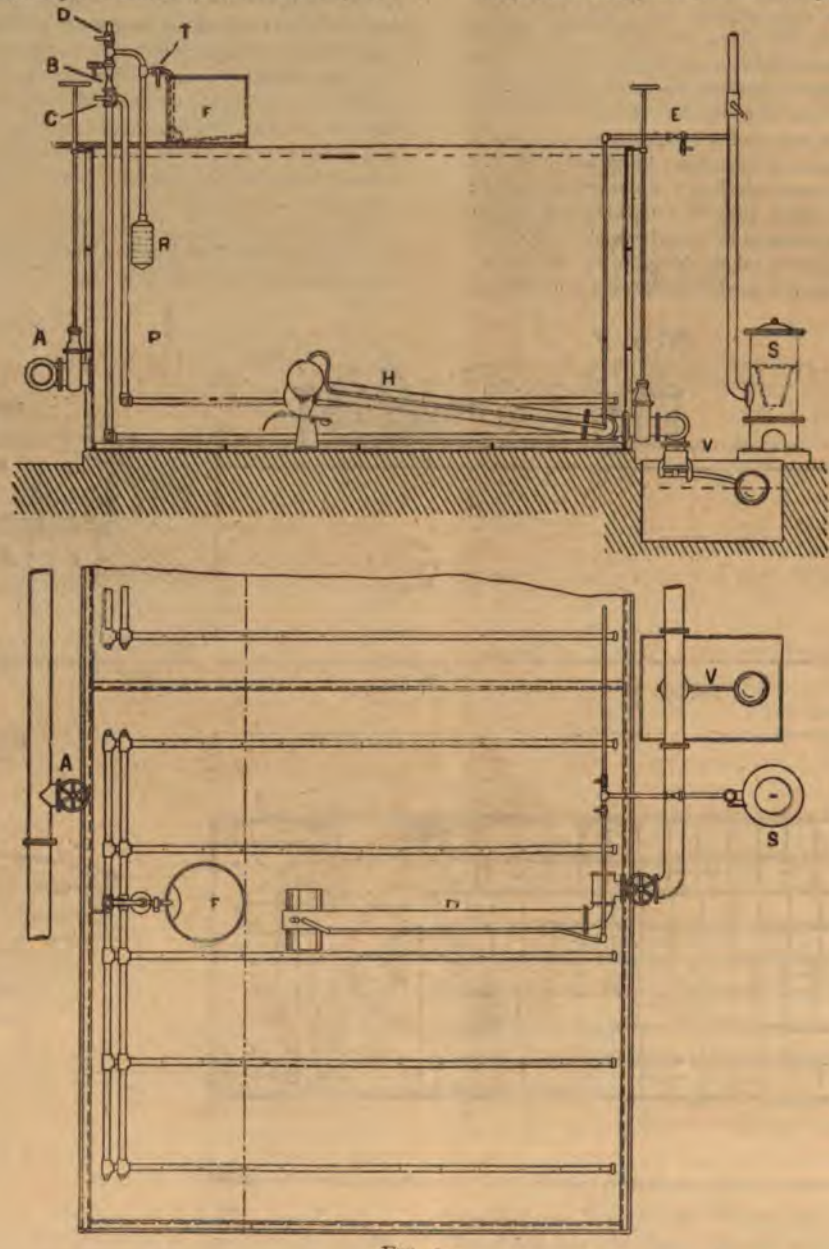


FIG 1.

will have it, in nine times out of ten it will happen that directly this is done the river inspector will be seen taking his occasional sample at the outfall. Explanations will ensue, but they seldom avail much against the analytical *data* obtained from the test of that sample in the laboratory of the river authorities. By the "Archbutt-Deeley" process insufficient treatment can be detected at once, and the necessary further reatment is only a matter of a few minutes. Thus an absolutely constant effluent can be ensured, the value of which provision those who have had experience of waste water purification will fully appreciate.

Another point is the small amount of steam required to work the process and the entire absence of any need for skilled labour, while with an average water the cost of precipitants is low in comparison with the experience at many works.

In some cases the waste water is being purified to such an extent that it is being used over again for dyeing blacks and other dark shades, a feature which gives promise of very useful and important developments in the near future.

With reference to the illustrations, Figs 2 And 3 show a plant that is treating 20,000 gallons per hour, and Figs 4 and 5 another plant doing 120,000 gallons per hour. Fig. 5 in particular very clearly shows how even and thorough is the churning action during the "blowing" process that effects the quick and thorough mixture of the precipitant with the waste water.

To make this point quite clear it will be as well to give a brief sketch of the process, as applied to the treatment of works' effluents. Fig. 1 represents the purifier. It consists of a tank, which may be constructed of brick, concrete, or cast iron. The waste water to be treated is admitted by means of the inlet (see Fig. 2.) While the tank is filling, the chemicals required for precipitation are weighed out and boiled up with water in the small chemical tank F by means of live steam. When the tank is full, and the inlet valve has been closed, steam from the boiler is admitted to the blower B, causing a current of water to circulate through the rose R, the three-way tap C, down the vertical pipe and back into the tank through the perforations in the *upper* row of horizontal pipes. On opening the small tap T, the prepared chemical solution is slowly drawn into the circulating current, and uniformly diffused throughout the body of water in the tank. The tap D is next opened to admit air through the pipe at the top of the blower, and by reversing the three-way tap C this air is forced through the perforations on the under side of the *lower* row of pipes. From these it rises in streams of bubbles, stirring up some of the precipitate from previous operations, which when diffused throughout the water carries down the flocculent particles of freshly formed precipitate. Any residual virtue in the precipitant from the previous batch is also utilised, thus effecting considerable economy in chemicals. Steam is then turned off, and in about 30 minutes to one hour, nearly all the precipitant will have settled to the bottom of the tank, and the supernatant water, even to a depth of six feet, will not average more than about one grain per gallon of suspended matter.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

From what we have seen of this process we have cause to anticipate a future for it in

THE TREATMENT OF SEWAGE,

as large volumes of varying composition can be handled with comparative ease for *any kind* of chemical treatment. As we understand that further trials in this direction are under consideration, we may have occasion to make a more detailed reference to this aspect in the future.

AN OIL ROAD-WAGGON.

WITH the growth of the oil trade in connection with the Manchester Ship Canal, and the new depôt of the Anglo-Caucasian Oil Co. at Eccles, there is every prospect of the house to house system of delivering oil being considerably extended. Foreseeing this, Messrs. Wm. Oxley & Co., of Tudor Works, Pendleton, have laid themselves out for the production of a good oil road-waggon, which we illustrate in Fig. 1.

The waggon is fitted with improved "in and out" indestructible wheels, and is suitable for retailing petroleum and burning oils, being fitted with a tray for retailing bottles and large and small drawing-off taps.

It will be seen that these vehicles have been designed to meet the requirements of the trade, and have been specially built for the purpose, so that they are not a compromise between an ordinary lurry and a steam boiler. They are light running, steady, and combine the greatest amount of strength with the minimum of weight.

They are made in several designs, one of which is on two wheels for smaller quantities; or for the transport of liquids and chemicals. They can be fitted with hose connections for discharging the contents into tanks, either by syphons or pumps.

SIMON'S SACK FILLING MACHINE.

THE machine we illustrate (Fig. 2) is designed to save much of the labour and inconvenience incidental to sacking many chemicals, as well as to effect economy by giving exact weight only; thus saving the surplus material which goes as "make weight."

As soon as the exact weight is in the sack, the machine automatically closes the inlet, which does not allow any more material to pass until the workman, having removed the full sack and attached another

FIG. 2.

empty one, once more pulls down the grip-handle. Each sack is recorded on a mechanical register, so that no miscounts are possible.

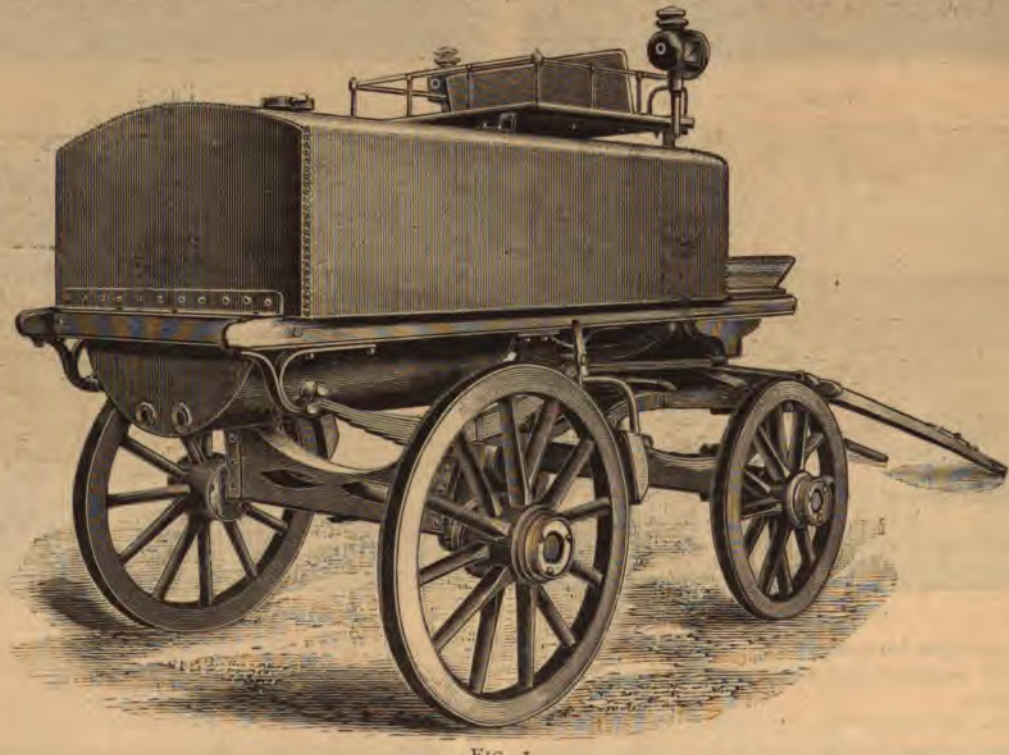


FIG. 1.

It is in reality a beam-scale, of exceptional strength and accurate workmanship, having dead weights, which can be varied to suit different sized sacks at one end, and a feed funnel at the other.

An empty sack is attached to the funnel by means of a simple belt clasp, and the workman then pulls down the grip-handle, shown at the top of the machine. The powder or other material to be weighed (which has to be supplied by a shoot from above), runs into the sack by gravity, exact weights being assured by double cut-off valves.

One machine will keep two men employed to weigh and remove two sacks per minute. Without the machine it would need at least four men to do as much, and then the weighing would not be anything like as accurate.

This machine also has the advantage of preventing the escape of deleterious dust. It is manufactured by the patentee, Mr. Richard Simon, at his automatic weighing machine works in Nottingham, from whom all particulars can be obtained.

Oils, Paints, and Soap.

A SOAPMAKER'S LABORATORY.

[SPECIALLY CONTRIBUTED.]

N old-time soap-maker, if told that he ought to have a laboratory, would reply that it was useless to him, and that he could not ive any benefit from one. Even now many soap-makers merely ard the laboratory as a place where a little analytical work can be done enever there happens to be a dispute about the quality of a batch of p or of a delivery of raw materials. That there was, and still is, ething more than analytical work to be done in a laboratory is a that has never been grasped by nine-tenths of even modern soap kers. In this article we shall therefore give some hints on (1) the lytical and (2) the technical work that may be done in a soap works ratory, and of the equipment necessary for carrying out such work.

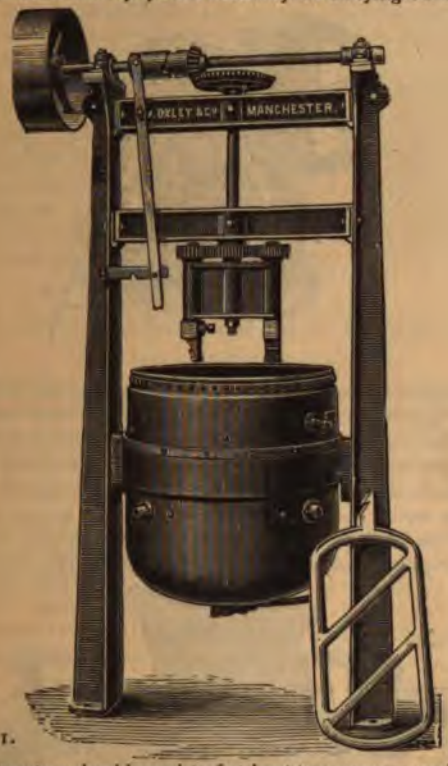


FIG 1.

he Laboratory should consist of at least two rooms—one large room hich actual work is carried on, and a smaller room, which is fitted joint balance room, library, and office. The laboratory itself ld either be a separate single storey building or a room on the top of the works It must be well lighted either by side windows or ghts, and should be well ventilated. It will be found most con- ent to arrange the working benches round the sides of the room, a large bench or table in the middle of the room on which to keep ratus. The chemicals may either be stored in cupboards under the hes or on the shelves fixed to the walls. A good supply of water ld be provided, while if there is a plentiful supply of gas connec- for Bunsen gas burners work can be carried on more conveniently. vill be found a constant source of annoyance if the gas heating ngements are insufficient. If gas is not available then recourse be had to spirit lamps, petroleum burners, and "Primus" petro- stoves. As steam is used in a soap works for boiling the soap, it be found extremely useful and convenient if a supply is laid on in aboratory. Later on we shall indicate more precisely where and steam is so serviceable.

he *analytical work* which must be carried on in all soap works' ratories we shall deal with very briefly. It should be the rule to every delivery of alkali to see that it is up to the standard at which is sold; all fats and oils to ascertain their purity; and all perfumes similar purpose. As regards fats, oils, and perfumes, the analyses should be as complete as possible, so as to gather together all the necessary information, of which some part may be wanted at one time or another. Every batch of soap should be examined, not only for quality, but also as a check upon the proper conduction of the various manufacturing operations. For this work the laboratory will need to be provided with the usual chemical apparatus—viz., a balance of good make, capable of turning with half a milligramme, burettes, pipettes, standard solutions, beakers, etc For drying the soap a steam oven will be found very useful, and the waste steam from this should be conducted through a condenser, thereby providing the necessary supply

FIG 2

of distilled water. A steam water bath will be found handy for heat ing the beakers in which the samples of fat and oil are boiled in determining their saponification value, or for dissolving the soap to be tested. Then a group of fat extractors fitted with condensers ought to be provided for estimating the free fat in soaps, the amount of fat or oil in greases, etc.

Technical Work—In times like the present, however, a soap works' laboratory must be more than an analytical laboratory, and its presiding

FIG. 3.

FIG. 4.

genius more than an analytical chemist. It must be fitted up for investigating the technical problems connected with soap making, which crop up from time to time. The chemist must be able, and have the means wherewith to investigate the value of a new oil or fat in soap making, in a way that he cannot do in beakers or the ordinary forms of chemical apparatus. He must be able to carry out experiments in soap making on a miniature manufacturing scale, with a view to bringing out new combinations of fat, scents, colours, etc., and so producing new brands of soap.

Such work will of necessity require the laboratory to be fitted up with suitable appliances, and we shall now proceed to indicate the character of such appliances, and where they can be obtained.

TECHNICAL APPLIANCES.

In the first place there must be provision for boiling up a few pounds of fat or oil into soap. This cannot be better done than in the copper, steam jacketted pans, which calico-printers use for making printing

pastes. These are made singly, in sizes of varying capacities. Fig. 1 gives an idea of such pans as made by Messrs. Wm. Oxley and Company, of Pendleton, near Manchester. They are made to swing on hollow trunnions, so that they can readily be emptied and cleaned out. Through one of the trunnions steam can be passed into the jacket for heating the contents, while through the other trunnion cold water can be sent into the jacket for cooling purposes. Useful sizes would be one, two, and three gallon pans, in which from 3 to 10 lbs. of fat can be saponified. A group of these pans fitted together (as they are frequently made) is useful. The contents of the pans will require stirring, and usually such pans are fitted with stirrers. However, as it is not easy to stir such large quantities by hand, they generally require some motive power.

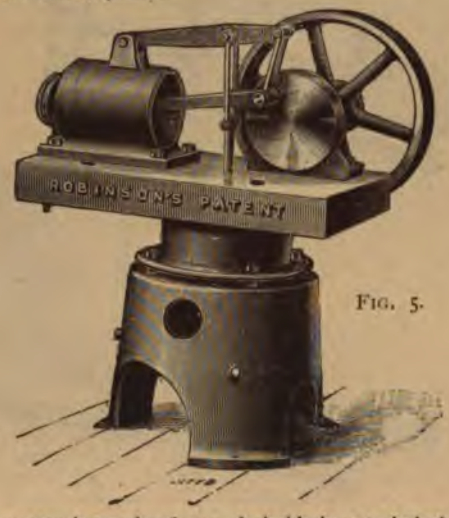


FIG. 5.

Thus a motor is nearly always desirable in a technical laboratory, and a variety of motors are available. A small water motor, made by E. A. Lentz, of Berlin, as arranged to stir the contents of a beaker, is shown in Fig. 2. Such a motor can be bought for 8s. to 10s. and the whole arrangement, as illustrated, for 16s. to 18s. This water motor can easily be attached by rubber tubing to a water tap, and being readily portable, may be used wherever it is most convenient. There are four other sources of motive power which are more or less available for use in a soap works' laboratory, these are steam, gas or oil, hot air, and electricity. What is wanted is a motor of small power, from one-half man to a third Horse Power, which will be ample for operating any machine in a laboratory.

The larger water motors are scarcely available, although they can be bought, for they take a lot of water, which is not always obtainable in sufficient abundance. Steam is not a very satisfactory motive power for laboratory purposes, for except in the case of a very large works, there are a number of objections to it, which we cannot discuss here. Gas engines may be commended as being cleanly and always available at a short notice. Messrs. G. F. Brooke and Co, of Leonard-street, London, make a specialty of small gas engines, and in Figs. 3 and 4 we illustrate two patterns that they make. Fig. 3 is an illustration of their "Midget Otto" engine which is made in four sizes from 1½ man to 33 man power, consuming from 10 to 18 feet of gas per hour and running at from 400 to 800 revolutions per minute.

The "Brooke," shown in Fig. 4, is a somewhat larger engine on the same lines working from ⅔rds to 1½ horse-power. The engines have been designed for small power work. They are simple and sound working engines of high-class workmanship, easy to start, and work with as little smell and noise as is possible with a gas engine. There are no complicated parts to get out of order, while the price is not high.

FIG. 6.

From gas to oil engines is not a long step, seeing that both are constructed on much the same principles, and where the works are so situated that gas is not to be had, then an oil engine of ¼ or ½-horse power might be put down. There are several well known makers of these engines, which are as convenient to use as gas engines.

Another motive power that can be resorted to is hot air, and in Figs. 5 and 6 we illustrate the Robinson Hot Air Engine, which gives excellent results where small power is required. The smaller engine is ½-man power, while the combined engine and pump will be found useful for circulating, cooling water, etc., when the engine is not required for motive power. Electro-motors, where electricity is available, are well worth attention on account of the fact that a small one can be attached direct to each piece of laboratory apparatus that requires driving, which, as far as power is concerned is exactly adapted to the work to be done. Again, an electro motor is a very portable article, much more so than almost any other kind of motor, for a pair of conducting wires are more easily laid, and not so much in the way as steam, gas, or water pipes. The only other motors which

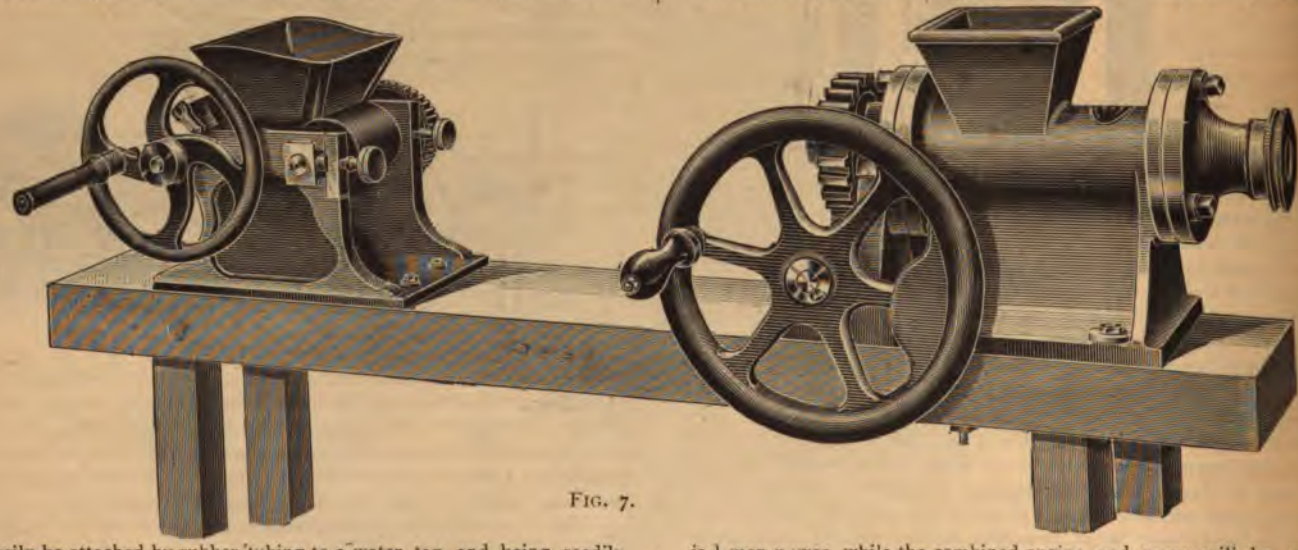


FIG. 7.

pare with it in this respect of portability are water motors and es, and even these cannot be so readily moved from place to the exigencies of the work in hand require.

ch attention is now being paid to the production of toilet soaps g, it is desirable that the soap works' laboratory should be h a small model milling plant for the purpose of experimenting ps made from various fats and oils; examining colouring as to their suitability; and for trying the effect of various

. A. Saalfeld and Co., of Manchester, make a model soap milling hich is shown in Fig. 7. This consists of a small crushing a squeezing or plodding mill, which can be fixed on to one nd may be worked either by hand or power. With this model ich can be worked with 4lbs. of soap, a great many experi- soap making can be carried out, which will help the soap o place on the market new brands of toilet soaps, with new of new tints, much more cheaply and with less labour than e not provided with this small plant, and had to perform all on the working scale. While a large amount of work can be hout a vacuum distilling or drying apparatus, they are made suitable for laboratory use, as for instance that shown on page have thus briefly sketched some of the staple appliances which be in a modern soap works' laboratory. A complete list of required has not been attempted, for the requirements of oratory differ. At the same time enough has been said to he lines on which a modern soap works' laboratory should be

TE LEAD AND WHITE LEAD SUBSTITUTES

[SPECIALLY CONTRIBUTED.]

attention has been paid of late years to the manufacture of ead and to substitutes for this important pigment, so it will terest, and possibly some value to our readers, if the various White Lead and substitutes therefore are described, even if briefly.

DUTCH WHITE LEAD.

dest White Lead is carbonate of lead in a more or less basic made by the ancient Dutch or Stack process and by the processes that have been devised from time to time to this method. In former numbers of the *Chemical Trade* hese processes have been discussed in detail. The carbonated ead is the typical White Lead, possessing many valuable such as good body and covering power, and a fair degree of acy. It has two faults; in the first place it is poisonous to the nd to the users. The perspiration ever present on the hands rs has an acid re-action, and tends to dissolve some of the ead, and this passing into the system gives rise to lead g. Unfortunately lead has the property of accumulating in m, and when a certain amount has got into the body it poisonous action, and is very difficult to eliminate from the

her defect alluded to is that of discolouring on exposure to air, y foul air containing sulphurous gases, with which it forms phide of lead. Taking these two defects into consideration, onder that endeavours have been made to press into service ite compounds of lead, and to find substitutes which are free defects which have been indicated. Passing over some of attempts in this direction, which were unsuccessful, and have an historical interest, we will speak of those now in use.

NON-POISONOUS WHITE LEADS.

an's Non-poisonous White Lead, made originally by Messrs. eman, Sons, and Co., of Battersea, is a combination of sulphate zinc oxide, and barytes, incorporated together by a process ey patented. It is an excellent pigment, slightly heavier than Dutch White Lead, possessing good body and covering power, s free from the defects of white lead, as it is quite innocuous, the lead being present in an insoluble form. It was also more nt, for while carbonate of lead is very sensitive to the action of the sulphate naturally is indifferent. Hence, as the latter body is of Freeman's Non-poisonous White Lead, that preparation does not discolour on exposure, even to foul air. The covering power and body of this pigment is rather better than that of Dutch White Lead, so that it goes farther.

The White Lead Co., of Glasgow, put on the market a White Lead made after Hannay's patents from the natural lead ore, galena, by a process of oxidation and sublimation, effected by means of a blast of air in a suitable furnace. The product, after levigation and drying is a fine, heavy, white powder, which is sold as white lead under the special brand of "Ironclad White Lead." It is an almost pure sulphate of lead with a little sulphite of lead, and hydroxide of lead. As a pigment it is quite satisfactory; it has a good white colour, being rather whiter than Dutch White Lead. Its covering power is excellent, for when properly ground and mixed with oil and turps into a paint it will cover a larger surface than Dutch White Lead. Its body, too, is good, being a little better than the last-named product, while it has the advantage of being non-poisonous, so that painters who use this product are free from any liability to lead poisoning. It is more permanent, keeping its colour better and longer than Dutch White Lead under any condition. It wants using with care, and particular attention should be paid to mixing it with oil and turps to the proper consistency, or otherwise it will not work to the best advantage. It may be added that this White Lead is cheaper than Dutch or carbonated White Lead.

The Scottish Oil and Chemical Co. are producing under patents of Mr. A. J. Charlier, a White Lead prepared from a lead ore in a similar manner to this product, the chief ingredient being sulphite of lead, while there is also present a certain amount of sulphate and hydroxide of lead. This pigment is being received with some favour by painters. It is cheap, possesses a good white colour, and covers very well. It is easily mixed into a paint with oil and turps, and is certainly non-poisonous, while it is permanent on exposure to air and light, not being liable to any great amount of discoloration by foul atmospheres. The use of the appellation "White Lead," as applied to any other preparation of lead than the carbonate, is deemed by many incorrect, yet it can hardly be denied that they are really pure lead compounds, and being white, are as much entitled to be called "White Lead" as the carbonate is.

At the end of November last this question came before the Scottish Court of Session, in an action by the White Lead Co. to recover payment of a heavy account, which claim was resisted on the ground that the product supplied was not White Lead. The Judge's decision in the action has not yet been given, and therefore we cannot discuss the case here, the matter still being *sub judice**, but the experts engaged agreed that, although the term "White Lead" used by itself, in ordinary commercial usage, signified the Dutch or carbonated White Lead, yet the White Lead Co. were justified in adopting the name for their product, especially as they advertised the fact that it was not the carbonate, so that the trade in buying from them should know that it was not Dutch or carbonated White Lead they were buying. The same remarks apply to the Scottish Oil and Chemical Company's White Lead.

WHITE LEAD SUBSTITUTES.

We may now turn our attention to these white pigments which have been produced as substitutes for White Lead, and the first we shall notice will be Orr's, "Charlton White." This is a combination of zinc oxide and barium sulphate produced after a special process patented by Mr. J. B. Orr; it is also know as Orr's zinc white. This pigment possesses many excellent features. It is, on the whole, purer in colour than White Lead, it is stronger in body and covering power, and therefore goes farther, while it is more permanent, for it is absolutely unattacked on exposure to foul air and sulphurous gases. The writer has used this pigment with excellent results in many places where White Lead would have gone black. Griffith's Zinc White, and Lithopone are similar products to the last and have the same properties.

Messrs. Goadsby and Co., of Manchester, have placed on the market "Permanent White." During the last few years, they have again and again been applied to by large consumers, such as railway companies, steamboat companies, and corporations as to whether it was not possible to produce some article for paint having the same covering properties and durability as White Lead, which would be non-poisonous. This

* Judgment has since been delivered, and will appear next week.—ED. C.T.J.

has been a long felt and growing want amongst large users on account of the increasing number of cases of lead poisoning. In the same ratio as such cases have increased, the requirements and regulations of the Home Office, framed to minimise the risks to those handling this article, have been multiplied. These regulations were the natural outcome of the cases referred to, but considering they were enforced by constantly changing inspectors, no one being on the ground more than a few months, and that each one had his own particular fad and fancy as to the way in which these regulations should be carried out, the lot of the grinder became a very unhappy and a very unsatisfactory one.

The firm have had many years' experience as grinders, but owing to these difficulties, and the repeated importunities of the consumers already mentioned, they laid themselves out to produce, if possible, a non-poisonous substitute for White Lead, and such a preparation they placed on the market about two years ago as "Permanent White." Since then, they have protected the same under the name of "Minorite." Permanent White, whilst equal in body and colouring power to White Lead, has the supreme advantage of being absolutely non-poisonous. As prepared for the market, it is in a stiff paste and presents a pure white appearance. As compared with White Lead, it retains its colour much longer, being in no way affected by heat or sulphurous fumes. It is thus highly suited for railway and shipbuilders' work. To the latter, we can recommend it for cabin and all interior painting. It is also very suitable for conservatory and greenhouse painting, as it has no injurious effects upon plants as is the case with White Lead. As it can be tinted to any required shade, any class of work may be done with it.

Paper-Makers' Column.

CHINA CLAY AS A LOADING MATERIAL.

[SPECIALLY CONTRIBUTED.]

THE term "loading" as applied to many industries is synonymous with adulteration, but no such significance can be attached to those mineral substances termed "loadings" so extensively used in the manufacture of certain classes of paper.

Many of these minerals form a necessary ingredient of the paper itself, imparting to it certain desirable characteristics. Of these loadings china clay is the one most generally used, and the most important if we exclude mechanically ground wood. And, indeed, this ought not to be considered a "loading" at all, for mechanically ground wood will of itself form a very respectable sheet of paper, and is essentially a fibre possessing considerable felting power. With loadings, on the other hand, this can never be the case. Materials such as china clay, talc, gypsum, pearl hardening, blanc fixe, etc., are all mineral bodies having no fibrous character, and, of course, no felting properties.

Of these minerals no one possesses so many useful properties for the papermaker as china clay. Pearl hardening and gypsum are both partly soluble in water, and although talc and blanc fixe are both completely insoluble in water, yet their general characteristics cannot wholly come up to the very varied needs of papermakers.

In one point only do these minerals surpass china clay, namely, in that of colour. The object of the manufacturer is to obtain a loading of the greatest degree of whiteness, and it is well known that talc and ground gypsum, as well as other artificially formed loadings, such as pearl hardening or precipitated sulphate of lime, blanc fixe, etc., surpass china clay in this particular. The densities of talc and gypsum, even when most finely ground, are both greater than that of china clay, and both are in consequence not so miscible with water, but have a greater tendency to settle out. Indeed, we know of no mineral loading in general use in paper mills, and which is not artificially prepared, that can compare in degree of fineness and levity with china clay. This is due to the circumstance that the clay is carefully prepared by separating it at the mines into different qualities, in regard to colour, fineness, etc., by the well-known process of levigation.

It is almost unnecessary to remind our readers that this clay occurs in abundance on the South coast of England, in Dorset, Cornwall, and Devon, in such extensive deposits that the supply seems inexhaustible. From thence it is shipped all over the world to be used for a great variety of purposes, the chief among which are the manufacture of *china* ware; for loading papers, and in certain districts for the production of sulphate of alumina and aluminous cake, both of which are also used in paper making.

As just stated, the mineral, as found in the natural deposits, is subjected to levigation, which, stated simply, consists of grinding with water, and allowing the mixture to flow over a series of settling areas where the fine clay is allowed to deposit by natural subsidence. The clay so deposited is selected, and separated into different grades, the main qualities of which are whiteness and fineness.

Hence it is possible to obtain china clay varying from a fairly pure white, through a variety of shades to pale yellow, and containing more or less particles of undecomposed rock. The degree of whiteness and freedom from grit, which china clays possess, is a direct measure of their value to the paper-maker. The feeble yellow shade which some clays possess, is usually due to the presence of ferric oxide.

From a chemical point of view, china clay is a hydrated silicate of alumina, and the English deposits are of fairly constant composition. The better qualities offered to paper-makers are usually composed of

Alumina	39·37	per cent.
Silica	45·89	,, ,,
Lime	00·35	,, ,,
Magnesia	00·40	,, ,,
Ferrous oxide	00·23	,, ,,
Water, combined	10·80	,, ,,
,, hygroscopic	2·45	,, ,,
Alkaline, bases, etc.	00·51	,, ,,
	100·00	

The water they contain is partly combined and partly hygroscopic, and it is worthy of note that the former is not eliminated from the clay in the web of paper as the latter passes over the drying cylinders of the machine. Were this to take place, *i.e.* were the temperature which the paper is dried at, high enough to expel the combined water, the soft character of the clay would be partly lost, and a wholly different effect produced. The paper in fact would lose most of the qualities that the hydrated clay imparts to it. This can readily be shown by using calcined clay, instead of the natural product produced by levigation at the mines.

In clays of good colour, the whole of the iron invariably exists as ferrous oxide in combination with silica When ferric oxide, on the other hand, is present, the clays have a yellow tint. A very small quantity of ferric oxide in the natural clay suffices to produce a comparatively deep shade of yellow. Ferrous oxide is colourless, and owing to its being in a state of combination as a silicate instead of as the oxide, it is less liable to change during the operations through which the clay passes in the hands of the paper maker, or even when the paper itself is subjected to long exposure in the air. Indeed, it is only by roasting the clay at a high temperature with free access of air, that the ferrous oxide is readily changed to the ferric state.

The peculiarities imparted to paper by the presence of this loading are opaqueness, whiteness and increased softness on the surface. It also increases the absorbing power of the paper to printer's ink, thereby allowing a clear impression of the type and illustrations to be run off rapidly. The soft, greasy character of the clay produces this effect, while its great fineness enables it to be distributed very evenly and intimately throughout the texture of the paper. It has also a certain affinity for aniline dyes that adds to its value in the production of tinted papers of the palest shades.

Next to colour, the most important item in the purity of a china clay, is its freedom from grit and dirt. The grit arises from the presence of particles of undecomposed rock which have been carried forward by the current of water and clay, in the process of levigation. When this is the case, most papermakers consider it necessary to remove it by the simple process of sieving. This serves two purposes, viz., to remove the grit in question, and any other foreign matters, such as fibres from the jute bags in which the clay is transported. For this purpose, the the clay is mixed into a thick cream with hot water, and then passed through a sieve having seventy holes to the lineal inch. Sometimes a proportion of starch is added to increase the consistency. The object in thus purifying the clay is to avoid the formation of pin-holes in the manufacture of printing papers, which are passed through calenders in the glazing process.

"ORTOL," A NEW DEVELOPER.

ORTOL is a new photographic developer, manufactured by Mr. J. Hauff, of Feuerbach, Stuttgart, Germany, and just introduced into this country by Messrs. Fuerst Bros, of Philpot-lane, London.

Mr. Charles H. Bothamley, F.I.C., in reporting on this developer, says :—"Ortol is mono-methyl-ortho-amido-phenol-chlor-hydrate, and is a yellowish white powder, dissolving readily in cold water, and consequently the preparation of the solution is easy and does not occupy much time. It is very much less affected by exposure to the air than solutions of pyrogallic acid. Solutions made up according to the maker's formula, can be kept for a long time without deterioration.

Experiments were made on six different brands of English plates, and it was found that the developer is energetic and acts rapidly. It is also well under control . . . the image begins to appear in about one minute and is complete in from 3 to 5 minutes. Potassium bromide has a well-marked retarding influence, and the colour of the developed image is rather less brown than with pyro-soda, and it resembles in this respect pyrogallic acid very closely. A worker accustomed to pyrogallic acid should therefore have no difficulty in judging the density of negatives developed with Ortol.

One great point in favour of Ortol is that it shows no tendency to stain either the negative or the fingers. I have come to the conclusion that Ortol is quite equal to any other developer for the purpose of lantern slide making, and is superior to most of them.

I have also used it for developing bromide paper and for this purpose also I found it very satisfactory.

Ortol has considerable claims to be regarded as a satisfactory universal developer in the sense that by merely diluting it can be made to answer equally well for lantern slides, bromide paper, as for negatives.

In conclusion, I may say Ortol gives practically the same results as pyrogallic acid without the same tendency to produce fog or stains, and it has the advantage that the same quantity of developer can be used over and over again.

THE ANGLO-AMERICAN BOILER SOLVENT CO.

THE specialities of this company are their boiler fluid, condenser cleanser, and Eucalene disinfecting and sanitary cleanser, which have been before the public since 1885. The following year the boiler fluid gained the only prize medal at the Liverpool International Exhibition, and later the prize medal of the British and Colonial Exhibition, Manchester, 1895, which award brought the company immediately to the front. The secret of its success has been in matching the fluid to the water. The company always obtain samples of the feed water, which are analysed with great care, the boiler solvent being made up to suit the hundred-and-one different kinds of water, whether it be a hard, calcareous water, ochery or ferruginous, or water impregnated with magnesium salts, which always has a tendency to make the scale very hard and difficult to remove.

With regard to the condenser cleansing detergent, when this is used there is not the slightest occasion to remove any tubes. Reporting on its action, one expert explains that, as is well known, the contact with the hot tubes decomposes any greasy matter in the water, and the fatty acids then gradually corrode the tubes, finally producing insoluble metallic soaps. The detergent anticipates this difficulty by forming a soluble soap with any greasy matters, which is easily washed and steamed out. Further than this, it decomposes any metallic soap present, and effects its subsequent removal, leaving the cooling surfaces clean and in a more efficient state.

The Eucalene disinfecting and sanitary cleanser is used in public institutions and on board ships as an antiseptic agent. It is found invaluable in preventing the development of bacillus and spores, the bacteria resulting from putrefaction. It has a greater affinity for grease than a great many soaps, and this property, combined with its strong disinfectant power, renders it a very efficient agent on shipboard and in sick rooms for sanitary and cleansing purposes. It also acts as a vermicide, destroying those parasitic forms of insect life which are so troublesome on the Continent and in the tropics. It has an agreeable and pleasant odour.

OUR summary of the past year does not call for any special remark. The chemical industries have perhaps suffered heavier losses than the pure science, but with such names as those of Fresenius, Schutzenberger, and Meyer, it would not be fair to say that the losses in the latter sphere have not been heavy.

Generally speaking, however, there is cause for congratulation that the past year has been such an uneventful one in this particular connection. Without further remark, therefore, we can start with our review, in which, as heretofore, the classification is strictly alphabetical.

LOUIS PASCAL CASELLA.

Ætat 86.

In Louis Pascal Casella, who died at Highgate on April 26th, 1897, science and meteorology have lost a benefactor, and many scientific men a helper and a kind friend. Mr. Casella was of Italian parentage, but was born and educated in Scotland, and came to London about 70 years since. From the long list of inventions and improvements in scientific instruments with which the name of Casella is associated, it will probably suffice to select two. The clinical thermometer, now the companion of almost every nurse and medical man, was based upon Professor Phillips's *maximum* thermometer and brought into general use by the joint labours of Dr. (afterwards Sir W.) Aitken, F.R S., and Mr. Casella. Of the many new devices for travellers and explorers, probably few were more important than the adaptation of the pressure gauge to the verification of thermometers for determining the temperature at great depths in the ocean, where the pressure per square inch of surface can only be adequately expressed in tons. Mr. Casella retired from business some years since, but his benevolence and kindliness continued to the end. He was a Fellow of the Geographical Society, the Astronomical Society, and the Meteorological Society.

ROBERT LUCAS CHANCE.

Ætat 76.

Mr. R. L. Chance, of Chad Hill, Edgbaston, died on November 24th, 1897. Mr. Chance had been in declining health for some months. He was attended by Dr. Huxley and Mr. Gilbert Barling, but he ultimately succumbed to failure of the heart's action. The deceased was the eldest son of Mr. Robert Lucas Chance, who resided at Summerfield—the house which still stands in Summerfield Park—and who was practically the founder of the important business of Chance Brothers and Co. (now Chance Brothers, Limited), glass and alkali manufacturers, of Spon-lane, Birmingham. Mr. R. L. Chance was a member of the firm for about fifty years. He retained his interest in it to the last, although in recent years he did not actively take part in the management. His death follows rapidly upon that of his brother, Dr. Frank Chance, of London, the distinguished Hebrew scholar, which took place a few weeks previously, and the shock of which doubtless accelerated his own end. Mr. Chance, with other members of his family, took a keen interest in the local affairs of the community in which his business was carried on. He subscribed very liberally to the cause of elementary education, and especially to the schools which, prior to the Education Act of 1870, were carried on with such marked success in connection with Messrs. Chance's works. He was one of the original members of the Birmingham School Board. He also served upon the Local Board for the Smethwick district, being one of its first members. In 1862 he was elected chairman, and served in this capacity with ability and assiduity until the end of 1871. He was the only member of his family who was not a churchman, and

professed the tenets of the now little-known body called "Separatists," in which connection he was the chief supporter of the Separatists' Meeting Hall, Oldbury-road, Smethwick. Mr. Chance was a homœopath, and was president of and the most liberal subscriber to the Birmingham Homœopathic Hospital. His liberality, however, was confined to no narrow groove, but in the most modest and unostentatious manner he opened his purse to every good cause. He distributed immense sums of money for the assistance of others, and chiefly through private channels. At the same time his charity was of a discriminating kind. For many years he had a secretary and almoner, whose constant employment it was to investigate the applications made to him. If upon inquiry the appeal proved to be a deserving one, most generous help was afforded. Mr. Chance was glad to be informed of cases in which his assistance could be of either immediate or permanent benefit, and it may be safely stated that no deserving case that was ever submitted to him was neglected or refused help His name was upon the lists of practically all the public charities, and he did much good in defraying the expense of sending patients to seaside sanatoriums. In short, many thousands of pounds were spent by him in work of the purest and most unostentatious philanthropy Mr. Chance's personal manner was in accord with the character of his work. He was a most amiable, kind, and courteous gentleman, who enjoyed, as he well deserved, the good word and the good wishes of everyone who came into contact with him. Mr. Chance married a daughter of the late Mr. Abel Peyton, who survives him. It may be added that the deceased was a lover of art, and contributed to the Birmingham Art Gallery.

FRANCIS WILLIAM CROSSLEY.

Ætat 58.

Mr. Crossley was a member of a family which originally came from the North of Ireland. When a boy he was apprenticed to the great Armstrong engineering firm at Elswick, Newcastle-on-Tyne. While still a young man he came with his brother William to Manchester, and they began business together on quite a small scale Having bought the home and colonial rights of the "Otto" gas engine patent, they soon established a great business. During the last fifteen years Mr. Crossley had taken a very prominent part in many kinds of philanthropic work, and especially such as had a religious bearing. He was best known, perhaps, for his great and practical interest in home mission work. He and his brother began a mission in Openshaw connected with, though not exclusively confined to, their own works. It was very successful from the first, and ultimately Mr. Frank Crossley built the Star Hall, at a cost of £21,000, and, with his wife and daughter, ministered personally to the needs of a neglected district. Mr. Crossley was remarkable for the great generosity with which he would contribute to any ameliorative work of which he approved. He was a vice-president of the United Kingdom Alliance, and was among its most valued supporters. Though much occupied with the cares of a great business and large social schemes, Mr. Crossley found much time for the study of literature and art, and was a man of wide reading and culture. He gave substantial pecuniary expression to the keenness of his sympathy for the Cretans. By all classes his death will be lamented as that of a man of generous heart who was sincerely anxious to promote the public good.

JOHN DARLINGTON.

Ætat 71.

The death of Mr. John Darlington, which took place at Streatham on September 5, 1897, removed a well-known figure from London mining circles. Mr. Darlington, who was born at St. Austell in 1826, came of a family which for several generations have been intimately associated with Cornish mining. His father was engaged at the Alport mines, Derbyshire, where, in 1842, he erected his water-pressure engine. Mr. John Darlington inherited his father's inventive genius, and it was at the Alport mines that his constructive ability and industry attracted the attention of Mr. John Taylor, in whose London office he was employed for some time Subsequently he entered into partnership with the late John Arthur Phillips, F.R.S, in conjunction with whom he published, in 1857, "Records of Mining and Metallurgy." On the dissolution of the partnership, Mr. Darlington continued the mining and engineering part of the business. In the midst of an active professional career, necessitating frequent and prolonged absences from England, he found time to contribute numerous papers to the technical press. He was the author of "The Miners' Handbook," a treatise on "A System of Working Mines by a Combination of Steam Power and Hydraulic Machinery," and sundry other pamphlets, published in the "Proceedings of the Mining Institute of Cornwall" and elsewhere. To Ure's "Dictionary of Arts, Manufactures, and Mines," he contributed exhaustive articles on the "Dressing and Mechanical Preparation of Ores," "Hydraulic Machinery for Mines," and "Rock Boring Machinery." His share in the invention of rock-drilling machinery for shaft sinking and general purposes was no small one, and its ultimate adoption was largely due to his enterprise and indomitable perseverance. In 1866 he patented, along with Jordan, the rifle bar and ratchet wheel for turning the boring tool, an invention which attracted at the time great attention, and demonstrated the economic value of these labour-saving appliances. In 1867, in conjunction with the late Mr. West, he also invented hydraulic apparatus for counterbalancing pumping rods, changing the angles of reciprocatory motions, and transferring power. For many years Mr. Darlington was associated with some of the most important mining enterprises both in this country and abroad. His connection with the Montana Mine is well known, as also his work in India, South Australia (Burra Burra), and South America. His experience and reputation were world-wide, and he stood unrivalled in his profession as a man of integrity of character.

SIR HENRY DOULTON.

Ætat 77.

Sir H. Doulton was born at Vauxhall in 1820, being the second son of Mr. John Doulton, a Lambeth potter, whose business he joined on leaving University College School. His first great success was in the manufacture of glazed pipes for sanitary purposes, but about 187 he took up and greatly developed the production of what is now known all over the world as "Doulton ware"—ornamental pottery, in vases, jugs, cups, etc. A Doulton vase is generally made of a rather hard grey or brown ware, on which a sharply incised realistic design is drawn—a bird, or a group of rushes, or what not—and either a part or the whole is then richly enamelled in blue or dark brown. As is commonly the case with pottery, the originality of the firm of Doulton was not allowed to pass unchallenged; and a claim of priority was put forward for what was known as the Martin Pottery, a very similar manufacture. Rightly or wrongly, however, the great public decided to call the material by the name of Doulton ware; and as such it has long had immense vogue. Its merits are indisputable, and though it would probably be better if it were somewhat rarer, it is honest, useful, and in good taste. Subsequently he contributed much to the needs of chemical trades by applying his ware to the construction of acid resisting chemical plant, acid pumps and the like. Sir Henry Doulton (who was knighted in 1887) rebuilt the Lambeth works, putting up the large building with the slender tower which is so well known an object on the south bank of the Thames, just above Lambeth Palace; and there he supported a whole school of art workers, mostly women and girls. Some of these have real talent, and it is to be regretted that the bad trade custom of modern times does not permit them, as a rule, to sign their pieces, as they would have done had they worked at Urbino or Gubbio in the 16th century. One worker for the firm, however, Mr. George Tinworth, the modeller, obtained celebrity some years ago by his large terra-cotta figures in relief. Sir Henry was a member of the Cordwainers' and Turners' Companies and an associate of the Institute of Civil Engineers. He was vice-president of the Society of Arts, and was awarded the Albert Medal of that society in 1885 in recognition of the impulse given by him to the production of pottery in this country. The medal was personally presented to Sir Henry by the Prince of Wales at the Lambeth works. He was a Chevalier of the Legion of Honour, and was on the Lieutenancy for the City of London. Sir Henry was particularly fond of his country house, Woolpits, Ewhurst, where latterly he had spent much of his time. He took a prominent part in many good works, especially as almoner of St. Thomas's Hospital. He married, in 1849, the daughter of Mr. J. L. Kennaby, and was left a widower in 1888.

JOHN FAIRBURN.

Ætat 78.

Mr. J. Fairburn was a familiar figure in the religious, political, and municipal life of Sheffield. He was born near York, and having spent some years in the office of a law stationer in that city, he, in 1846, commenced business in Sheffield. Subsequently he began to speculate in property, and became largely interested in lead mining in Derbyshire. The decline of that industry involved him in serious loss. He also acquired a chemical business at Attercliffe, which he carried on with success. For many years he was an active and prominent member of the Wesleyan body, and for some forty years was superintendent of one of their largest Sunday schools. In 1865 he was elected a member of the Sheffield City Council, five years later he was promoted to the aldermanic bench, and in 1872 he filled the office of mayor. He was elected a member of the first Sheffield School Board in 1870, and retired after nine years' acceptable service. For a dozen years he sat on the Ecclesall Board of Guardians. He was, until recent years, a prominent member of the Conservative party.

CARL REMIGIUS FRESENIUS.

Ætat 78.

Dr. R. Fresenius was the Nestor of analytical chemists. He was one of the few remaining eminent men who connect the present generation of chemists with the period of Liebig's greatest activity and brilliancy. Born at Frankfort-on-the-Maine, he was educated at the Gymnasium at Frankfort, and in 1836 entered as apprentice the pharmaceutical establishment of Stein, leaving there in 1840 for the University of Bonn. As a student at Bonn, he felt the necessity for a more systematic scheme of qualitative analysis than was in existence at that date, and in order to fill this deficiency he worked out such a scheme. This was published in book form in 1841, by Henry and Cohen, of Bonn. It was the commencement of those books on analysis, translations of which have appeared in very numerous languages, which have made Fresenius' name a household word among chemists. In 1841 he left Bonn for Giessen, where he at once became assistant to Liebig, and there conducted the laboratory course in elementary inorganic analysis. Two years later Fresenius became Privatdocent at the University of Giessen, remaining there till September, 1845, when he received a call to the Chair of Chemistry, Physics, and Technology in the Agricultural Institute near Wiesbaden. The means of the Institute in question were exceedingly limited, and hardly allowed any practical chemical work to be carried on. Fresenius therefore, at the commencement of 1848, established the private laboratory with which his name is inseparably connected. Only the small number of five pupils worked with him during the first year, but their number rapidly increased. The teaching of Fresenius and his staff was officially recognised by the Government of the Duchy of Nassau, and a financial subsidy was paid him by the State. An official agricultural laboratory was in later years combined with the establishment, which gradually became a centre of analytical research; while commercial and technological chemical investigations, touching on all branches of industry, kept a large staff of assistants employed. When to all this is added the large amount of labour involved in the management of the journal, *Zeitschrift für Analytische Chemie* (established by Fresenius), in the frequent issue of new editions of his works, and in the supervision of chemical manufactories, it will be seen that his was no ordinary energy. His system of working from morning till night enabled him for just upon fifty years to fulfil his numerous self-imposed duties, and to make himself a power in the analytical branch of science.

Looking over the scientific results of his life, it can safely be asserted that no chemist of modern times since the death of Rose has left a deeper imprint upon analytical chemistry than Fresenius. The most important of his original researches are those worked out with Will in 1843 for the valuation of the carbonates, and of manganese peroxides; the use of potassium cyanide in analytical work; the differentiation of the arsenic and antimony mirrors in Marsh's process; the cyanide method of detecting arsenic in forensic cases (with Babo); and his numerous contributions to the analysis of phosphates, of acetates, and of sulphates.

Much of his most careful work was done in connection with the publication of his books. If, in this his desire to give exact information, he was often too full of detail for modern scientific taste, or if, in his anxiety to reach the highest possible accuracy, he carried decimal points somewhat farther than necessary, this does not detract from, but rather adds to, the impression which his honesty of purpose is bound to make.

His undying merit is, without doubt, the writing of his two works on Analytical Chemistry and the establishment and conduct of the *Zeitschrift für Analytische Chemie*. His "Qualitative Analysis" has gone through sixteen German editions, and the "Quantitative" through six. Translations exist in a multitude of languages, and every chemical laboratory in the world works according to the information contained in these volumes. In inorganic analysis they are the most trustworthy guides that were ever written.

Personally, Fresenius was of a most kindly and genial disposition, he took a loving interest in every one of his students, and inspired many of them with the enthusiasm which he so obviously felt.

PETER HART.

Ætat 63.

Peter Hart was born at the village of Orford, near Warrington, the native place of his father, who was employed at J. Muspratt's soda works, Newton-le-Willows, and who had been previously employed on the Liverpool and Manchester Railway at Sankey Viaduct, where he repeatedly met George Stephenson. Leaving school at the age of ten with the plain education of those days, he went as a clerk to a lawyer at Tarporley, Cheshire. Mr. Young, of paraffin oil fame (then manager for Muspratt's), came to take the control of Messrs. Tennant's works at Ardwick Bridge, Manchester, and induced his father to come to Manchester to help him at this time.

At Tarporley Peter Hart only remained a few months and came to the works at Manchester, but soon afterwards returned to Warrington to enter the office of Mr. W. Beaumont, a well-known lawyer and antiquarian of that city (first mayor of Warrington). He stayed there three years, acquiring a general education under Mr. Beaumont's superintendence. In January, 1849, he came back to Manchester and entered the service of Messrs. Tennant & Co., beginning in the office. A few months afterwards an event happened that placed him in the position he desired.

According to his son (Mr. W. B. Hart) Mr. Young's laboratory assistant at that time (who had previously occupied the position in the office that Hart did), seemed to have no taste for science, and one day in September, 1849, Mr. Young brought his assistant back to the office (by the ear) and beckoned Peter to follow him into the laboratory. He now attended chemical evening classes at the old Mechanics' Institute in Cooper-street, under Dr. Allen, and cultivated all he saw and learned there by practical work in the work's laboratory. In his spare time he read assiduously Graham Turner, and a much cherished volume of Brande.

In 1847 Young's attention was drawn by Dr. Lyon Playfair to the discovery of a spring of "valuable petroleum," near Alfreton, in Derbyshire (J. S. C. I., vol. vii., p. 612). This spring soon gave out, but a short time afterwards Young made the discovery of the production of paraffin oil from shale, and Hart saw and assisted in these experiments, which were carried out at the Ardwick Bridge Chemical works, of Tennants & Co.

About 1851 Young caused to be made (under his direction at Ardwick Bridge, for use in his oil refining process) some tons of solid caustic soda from the commercial liquid caustic soda, thus making what is probably the earliest record of its manufacture in England. Though necessarily impure, this was made previous to Gossage's patent of May 18th, 1853.

Young finally left Ardwick Bridge in 1852 to exploit his oil discoveries, and Peter Hart's father assumed the managership of the works with his son as chemist. About this time Peter Hart improved the existing method for the estimation of tin in cassiterite. Knowing the extreme activity of potassium cyanide as a reducing agent he made use of this fact, and carrying out his method added a known weight of cassiterite to fused potassium cyanide, removed the cyanate and excess

of cyanide, dissolved the reduced tin in hydrochloric acid and titrated in the usual manner. (Note: Publication of this method cannot be traced. It can only be found in a manuscript account of his early work at Ardwick Bridge works).

In the *Chemical Gazette*, 1854, vol. xii., p. 176 (now the *Chemical News*), he published an article, "On the estimation of tin," in which he describes and recommends the use of a "small quantity of potassium iodide and starch paste" as indicator with standard potassium bichromate, instead of Dr. Penny's addition of "protosulphate of iron and potassium sulphocyanide."

In this same year (1854) he published in the same paper (vol. xii., p. 350), a paper, "On an anhydrous persulphate of iron." This was discovered in the anhydrous and crystalline condition while cleaning out a platinum still for sulphuric acid concentration. He gave the reaction showing its probable formation.

In 1855 he published a "Description of a new gas furnace" for laboratory work. In this same year he published a paper, "On the estimation of sesquioxide of chromium in chrome ore," his original and now well-known method. This was based on the observance of the solubility of sesquioxide of chromium in fused borax, with subsequent oxidation with potassium nitrate and alkaline carbonate. This method is given in Fresenius' "Quantitative analysis," 4th edition, pages 387 and 388, with note of reference to original communication and publication in the *Chemical Gazette*. In 1859 he published a paper on "A modification of Fresenius and Will's apparatus adapted to the examination of limestones, etc." Also in this year he published a paper in which he proposed the use of urea, in the form of nitrate, for the determination of "nitrous acid" in the analysis of nitrous vitriol. All these papers appeared in the *Chemical Gazette*.

About this time Peter Hart wrote the article on sulphuric acid manufacture for Dr. Sheridan Muspratt's book on Chemistry, in 1860, the original edition.

In 1866 Hart's father met with an accident in the laboratory which ended in his death, and Peter Hart assumed full control of the works. In 1867 he published a paper in the proceedings of the Manchester Literary and Philosophical Society, entitled "Note on the occurrence of ammonium sulphocyanide in gas mains." In 1872 he published a paper, "On a modified form of anemometer," in the proceedings of the same society.

In 1885, when Tennants & Co. removed their works from Ardwick Bridge to Clayton, the whole of the erection and carrying out of the works was executed according to Hart's designs, and under his superintendence.

He was a member of the Society of Chemical Industry since its commencement, a member of the Manchester Sectional Committee, and a vice-chairman of the section. He was a Fellow of the Institute of Chemistry, and had been a member of the Manchester Literary and Philosophical Society since 1862.

JOHN JONES.

Ætat 62.

Mr. John Jones, of Ireton Lodge, Wolverhampton, was a native of that town, and one of five brothers who by industry and perseverance rose from a humble position to become most successful business men. He also took an active part in the public affairs of the town. After learning his trade at the Old Hall Japan Works of Messrs. F. Walton and Co., he, with his brother Joseph, embarked in the galvanized iron trade, and in a few years established a very large concern with trading relations at home and with most of the foreign markets. Their works in Church-lane being inadequate for the growth of their trade, they purchased the two extensive Stour Valley and Shrubbery Iron Works, formerly carried on by Messrs. George B. Thornycroft and Co., the senior proprietor of which was the father-in-law of Sir Henry H. Fowler, M.P. Messrs. Jones remodelled the Stour Valley works for the rolling of their own sheet iron, and adapted the Shrubbery works for their galvanizing departments. Both works were afterwards enlarged, and the firm became the principal one in South Staffordshire. In order to relieve the senior partners of some of the cares of business, so that they could devote themselves more to public life, the concern was converted some years ago into a private limited liability company, and a share of the management was undertaken by younger members of the partners' families, though Mr. John Jones remained as chairman and head of the concern. He became a member of the Town Council in 1872, Alderman in 1877, and Mayor in 1878, and was unanimously re-elected chief magistrate for the two succeeding years, an honour not previously conferred in the borough.

HUGO KUNHEIM.

Ætat 62.

The death of Commerzienrath Dr. Hugo Kunheim, of the firm of Kunheim and Co., of Berlin, which occurred in that city on March 22, has removed one of the foremost among the men who have made the German chemical industry what it is. Dr. Kunheim succeeded his father in a prosperous chemical factory, founded about sixty-five years ago, which he extended enormously. He was interested in almost every department of German chemical industry, and his firm was the first to establish the manufacture of many important chemicals on German soil. Dr. Kunheim was especially associated with the manufacture of sulphuric acid, ammonia, borax, liquid carbonic acid, oxalic acid, and potash salts. He was the first German manufacturer of yellow prussiate of potash from gas-liquor, and was chairman of the convention of yellow prussiate manufacturers. He was also the pioneer of the Sicilian citrate of lime industry. In 1873 the city of Berlin purchased his factory on the Kreuzberg for six millions of marks, the site being required for the extension of the city. Dr. Kunheim was a prominent figure in Berlin society and in Continental chemical circles generally. He is said to have died very wealthy, and is known to have been financially interested in about a score of large chemical and electrical undertakings on the Continent.

VICTOR MEYER.

Ætat 49.

The sudden and unexpected death of this eminent chemist and physicist was most painful, as it is uncertain whether his loss was premature or not. The regretted event was at first ascribed to apoplexy, but it has since been stated—on what evidence it is not certainly known—that Prof. Meyer fell a victim to poisoning. We should add that those who regard the death of Prof. Meyer as suicide allege that he suffered from domestic troubles.

He was the son of the calico-printer, Jacques Meyer, of Berlin. After his earlier education at the Werder Gymnasium, he entered, in his sixteenth year, the University of Berlin, and after one term, that of Heidelberg, where he devoted himself to the study of chemistry under Prof. Bunsen, whose assistant he became. After graduating at Heidelberg he continued his studies at Berlin under A. von Baeyer. In 1871 he was called to the Polytechnicum at Stuttgart as the First Assistant of Fehling, and (titular) Professor of Organic and Theoretical Chemistry. After a year he received a call as Professor of General Chemistry at the Polytechnicum at Zurich *vice* Wislicenus. In 1885 he removed to Göttingen, and in 1889 he was transferred to the University of Heidelberg as the successor of Bunsen, who had recommended him as the most highly gifted of his pupils. Under his leadership chemical studies at Heidelberg developed rapidly. In latter years applications had to be rejected every term.

Through Victor Meyer's researches our science experienced important extensions in various directions. The methods of determining vapour densities were greatly simplified and facilitated by his procedures. His results at high temperatures (up to 1,800° and beyond) yielded a firm basis for pyro-chemistry. We are indebted to him for the discovery of thiophene, which was the result of an unsuccessful lecture experiment. According to *Nature* some benzene prepared from benzoic acid was shaken with strong sulphuric acid and isatin, and failed to give the usual blue coloration. Further investigation revealed the fact that this coloration was due to an impurity in ordinary coal tar benzene—viz., thiophene. The discovery of this remarkable substance was of great importance; giving as it did a deeper insight into the nature of aromatic substances. Six years after the discovery of thiophene, Dr. Meyer was able to publish a monograph, "Die Thiophengruppe," containing a masterly account of thiophene and its derivatives—practically the whole of the work having been carried out in his own laboratory.

PROFESSOR SCHÜTZENBERGER.

Ætat 67.

The eminent French chemist, Professor Schützenberger, was born in Strasburg, and studied medicine there. He began his chemical studies while working for his degree. After having been attached to the chemical laboratory at the Conservatoire des Arts et Metiers, Assistant-Director at the Sorbonne Laboratory, and lastly head of the chemical department at the Collége de France, he became in 1876 Professor of Chemistry at that college. He was also at the head of the Paris Municipal School of Physics and Chemistry. In 1884 he was elected a member of the Academy of Medicine, and in 1888 he succeeded Debray at the Academy of Sciences. His works have made him famous in the scientific world. These honours, and the widely-felt appreciation of which they were the embodiment, were earned by a series of sterling researches in organic chemistry, especially in its application to colours and their uses in the tinctorial arts, in which department he was recognised as one of the best authorities. His works include researches on the physiology of digestion and fermentation, and, above all, a cyclopædia—as we may call it—of tinctorial chemistry, considered both theoretically and practically, and an investigation into the alkaloids. No French *savant* was more esteemed, and his death is not merely a great loss to science but the occasion of wide-spread sorrow.

CHARLES TOMLINSON.

Ætat 89.

Mr. Charles Tomlinson, F.R.S., was born in London in 1808, and combined in an unusual degree the often divergent passions for science and literature. For many years he was lecturer on experimental science at King's College and examiner in physics to the Birkbeck Institution. His original investigations are recorded in the "Philosophical Transactions" in the "Journal of the Chemical Society" and other scientific periodicals. He edited a large and important "Cyclopædia of Useful Arts," and contributed to Lardner's and to Knight's "Cyclopædias." His clear style and firm grasp of his subjects made him an excellent populariser, and numerous scientific treatises came from his pen. In literature he had a wide range, and was the translator of Goethe's "Herman and Dorothea," from German into English hexameter, and of the "Inferno" into tierce rhyme. He was Barlow Lecturer on Dante. Professor Tomlinson was a man who had a genuine interest in the "advancement and diffusion of human knowledge," and had contributed to it in no small measure. He was a charming correspondent, and represented a fine type of the man of science and of letters.

JÖRGENSEN'S BIOLOGICAL LABORATORY.

COPENHAGEN.

THIS laboratory was founded in the year 1881 for the purpose of enabling scientists, brewers, distillers, and others, to gain a thorough scientific training in the biology of the micro-organisms concerned in the process of fermentation, and also with the object of giving a comprehensive knowledge of the application of such to practical methods. A speciality has been made of Hansen's system of pure culture and analysis of yeast (Carlsberg Laboratory), which, as is well known, has effected a reform in the science and practice of fermentation.

Each student is afforded opportunities for working independently under the guidance of the director and the chief of the Student's Department, so that students of the physiology of fermentation, analysts, technologists, brewers, distillers, wine manufacturers, etc.—may pursue separate courses.

Along with the practical teaching goes theoretical instruction, each student being taught in accordance with his special requirements.

Besides the ordinary equipments, the laboratory has an excellent collection of yeast-species and other micro-organisms. This collection, consisting of about 800 species, is available for study.

In its main features, the course of instruction aims at acquainting the students with the fundamental principles and methods relating to the study of the physiology and technology of fermentation and to the analysis and preparation of absolutely pure cultures of yeast—a series of typical species of yeasts and zymogenic bacteria are specially studied in this connection—and to give directions for a rational mode o working in each special branch of the zymotechnical industries.

After the student has become familiar with the construction and use of the microscope, he is taught how to examine microscopically the various micro-organisms occurring in fermenting liquids.

The different species of mould-fungi which play a part in fermentation are next studied in pure culture, and the development of the micro-organisms is followed by means of moist chambers.

From the yeast-like mould-fungi the student passes on to the Saccharomycetes, which include both culture- and disease-yeasts He is made familiar, by experiment, with the microscopical appearance, spore-formation, film-formation, limits of temperature and behaviour of all the important species with regard to their power of fermenting the different sugars, viz. sacharose, dextrose, maltose, etc., in short, the methods used for determining the species. Next follows a series of zymogenic bacteria and other bacteria of frequent occurrence.

After this preparatory work the students are initiated in the methods of the analysis of yeast by means of spore-cultures.

Then follows the preparation of the absolutely pure culture of yeast and the methods of making a methodical selection among the yeast-species by comparative experiments, for scientific or practical purposes, as the case may be.

The absolutely pure culture of brewers', distillers' or wine-yeast prepared in small flasks is developed in larger ones, according to special directions. The principles governing the further culture of yeasts on a large scale as well as the employment of these in practice without the use of any special appliances, are also explained, special attention being paid to the construction of the apparatus of propagation, to which end a model of Hansen and Kühle's apparatus is available in the laboratory, and its use in the zymotechnical industries, as well as to the principles for a rational aëration and cooling of the different nutritive liquids for the yeasts employed in the industries. Further, the methods are explained for the effectual cleansing and disinfection of walls, tuns, casks, tubes, and other apparatuses.

The final part of the instruction is the theory of the preservation of the absolutely pure culture and the zymotechnical air and water analysis. Around these main points are grouped a number of scientific and practical questions, which are made the subjects of special discussions and lectures. Those students who intend to work on some practical lines are taught how to make a thorough revision of the fermentations in breweries, distilleries, etc.

The students are admitted to the analytical laboratory connected with the institute, where they have opportunities of attending the practical and scientific work performed by able and efficient analysts, who have been connected with the laboratory for a number of years.

The students are, moreover, admitted, by the courtesy of the directors, to the great breweries and distilleries, where they are afforded opportunities, free of charge, of seeing the practical application of Hansen's system.

The institute has a special department for advanced students who want to deal with questions of a scientific or technical nature. No examination is required. On leaving the laboratory the student receives a certificate stating the progress he has made. The English, German, French, and Danish languages are used in the instruction, and a normal course lasts 2½ months. Entrance at dates fixed by special arrangement. The text-books used are:—*E. Chr. Hansen:* "Practical Studies in Fermentation," published by E. and F. N. Spon, London. In German: "Untersuchungen aus der Praxis der Gährungsindustrie," R. Oldenbourg, Munich. In French, shortened, in the Comptes-rendus du Laboratoire de Carlsberg, 1888 and 1892 (H. Hagerup, Copenhagen) *Alfred Jörgensen:* "Micro-organisms and Fermentation" (new edition), F. W. Lyon, Eastcheap, London. "Die Mikro-organismen der Gärungsindustrie, published by Paul Parey, Berlin. "Les Micro-organismes de la Fermentation" (Société d'éditions Scientifiques, Paris). The library of the laboratory and its collection of scientific and technological periodicals from all countries are at the disposal of the students. Each student should bring with him a microscope yielding a clear magnification of 150 and 600.

The laboratory is situated in the residence of Mr. Alfred Jörgensen, at Copenhagen, and is under his direct supervision. Full particulars of the curriculum, fees, etc., can be obtained by writing to the director.

MAGNESIA SECTIONAL COVERINGS.

EVERY engineer, since the time when James Watt first turned his mother's tea-kettle into a boiler for raising steam for his engine, has been troubled with the scale which collects in the steam-raising vessel, because it prevents the heat of the coal from at once getting through the iron plate and converting the water into steam, and all, we presume, have felt that they would much rather have it outside the boiler than inside. We have only to glance through our technical papers to see how many apparatus have been invented to attain this end, to know what a grave and serious nuisance it must be to the steam user, and being such a nuisance *inside* the boiler it is quite as great a blessing *outside* for keeping the heat in.

The great importance of high pressure and dry steam is every day being forced on us more and more, and to get the maximum effect from the coal used we must keep all the magnesia from the inside and put it on the outside of the boiler.

place amongst coverings—the place which is due to it from its own merits. As regards cost, it is the best article, which is cheapest in the long run, and magnesia covering being the lightest covering made, unaffected by heat and easily removable, possesses every quality which an engineer having the interest of his work at heart, and the desire to get his work quickly and well done, wishes to see on his pipes and boilers. Since these coverings were introduced and manufactured in this country by the Washington Chemical Company, Ltd., Washington, county of Durham, England, their use has become so extended, and their superior non-conducting properties so well known that it is now almost unnecessary to give further descriptions. We shall, however, for the sake of any who have not yet had them brought before their notice, give a few particulars of the various forms in which it is manufactured and some of the causes which have resulted in its very extensive adoption.

The figure shown of sectional pipe covering (Fig. 1) illustrates the

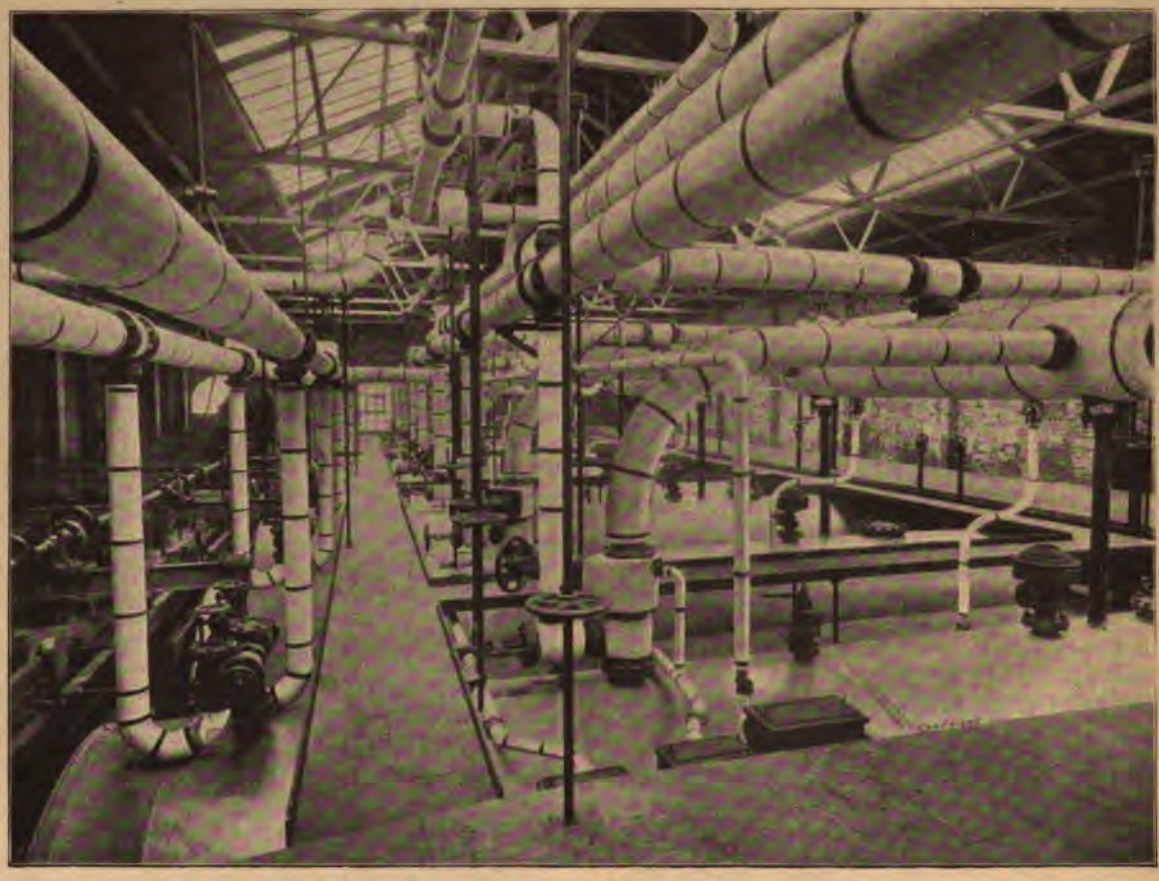


FIG. 6.

Magnesia carbonate is theoretically the best of non-conductors, for it possesses the lightness of cork, the porosity of sponge, and a firmness and strength which, considering its levity, is quite remarkable. Practically, magnesia sectional covering is the beau-ideal of a non conductor. Added to the magnesia carbonate is a fibre which gives it tenacity and adhesion, enabling it to be moulded into forms and sizes to suit almost any size and shape of steam appliance. As will be shown, there are sections for pipes easily applied, removed, or replaced; moulded coverings for tees, elbows, bends, and flanges; flat or bevelled blocks to place on large surfaces or packing round spaces; and finally powder, which is readily mixed with water and plastered on to surfaces for which none of the above forms are so suitable.

As already explained, every engineer is aware to his cost of the excellent non-conducting properties of magnesia carbonate inside his boiler, and it now only remains for them to test its efficacy on the outside. The success which it has already met with, and the repeat orders given by firms who have tried it, are causing it to take the first

form in most common use—namely that for covering an ordinary steam or water pipe. The sections are made in two pieces, hinged together by means of a stout canvas wrapper, which has a margin of one to one-and-a-half inch overlapping the joint. Outside the wrapper there are steel bands, in order to afford better security after the sections have been placed on the pipes. The sections can be made of any diameter and length up to 3 ft. long.

INSTRUCTIONS FOR APPLICATION.

Remove the iron bands, open out the sections (the canvas forming a hinge), place round the pipe to be covered, paste the loose edge of the canvas, then secure the bands. The whole may be sized, painted, and varnished if desired. For outside work, where the covering is exposed to rain or damp, this is necessary, care being taken, of course, that the sections are perfectly dry before application of the paint or varnish. For inside use it is quite unnecessary to paint the sections.

In ordering sectional pipe covering it is necessary to give the exact outside diameter, together with the length of the pipe to be covered.

The next illustration (Fig. 2) shows a new departure in covering pipes, being moulded sections to suit the bends of steam pipes. This is exactly similar in construction to the ordinary pipe section, and is applied in the same way.

For covering tees and elbows an ordinary straight length is usually adapted by cutting at right angles, according to the illustration Fig. 3. (A and B). This can readily be accomplished by means of a pocket knife to cut the canvas and a small saw to saw through the magnesia.

Recently the attention of engineers has been more and more directed

FIG. 1.

to the loss of heat by radiation from the flanges of steam pipes. Hitherto, such flanges have not been covered on account of the necessity of having them open for the detection of any leakage at the joint. Ordinary plastered coverings would not admit of this, consequently flanges were left exposed to the air. This difficulty has been entirely overcome by the manufacture of removable moulded flange boxes of the same nature as the pipe sections above described. Such flange boxes as shown in the illustration (Fig. 4) can be readily removed to inspect

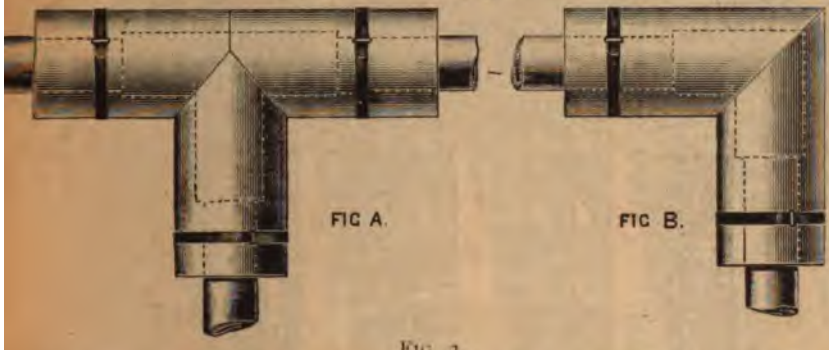


FIG. 3.

the joint and as readily replaced in position. The saving in heat effected by such coverings is very marked. The Washington Chemical Company, Ltd, are the only makers of removable flange boxes of any description.

Magnesia sectional coverings, cut into blocks of about 3 ft. long by 6 in. wide, and from 1½ in. to 2 in. thick, are very extensively used for all kinds of fireproofing. The material is extremely light, a square foot of 1 in. thick weighing only 1 lb. As it is absolutely fireproof and free from any kind of odour it is admirably adapted for the above purposes.

Fig 5 represents bevelled slabs made of magnesia covering. These can be cut to any radius, and used for covering drums, cylinders, and steam boilers of all descriptions. They are easily removed and replaced to allow of inspection of rivet seams. One of the most convenient uses of such slabs is on locomotive boilers. The wood lagging which up to the present time has been used for locomotive boilers has the very serious disadvantage of charring and sometimes taking fire. This is entirely obviated by the use of magnesia, which is not only fireproof but a much better non-conductor than wood.

Large pipes are best covered by fitting blocks around them and securing with lacing wire, after which strong canvas may be stretched round, and finally the varnished steel bands are fastened on to secure the whole. For covering locomotive boilers,

FIG. 5.

fill up any inequalities in plating there may be with plastic magnesia, then put on the bevelled slabs, holding them in place with wire staples. Lace round the covering with soft wire to hold all the slabs in position till the outside sheeting is put on the boiler.

For marine boilers, the best and most satisfactory result is obtained by applying the blocks to the boiler in a similar manner as described for locomotive boilers, then placing a sheet-iron protection round the whole. The iron sheeting is secured by means of studs. By this means a complete protection is afforded against damage from rough usage.

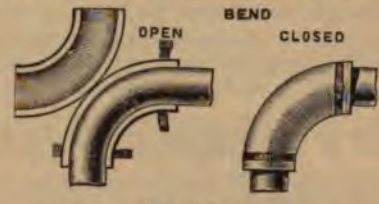


FIG. 2.

Where iron sheeting is not used wire netting is a good substitute. Plain blocks and slabs are used for various purposes, such as covering flat surfaces, either steam heated or for refrigerated tanks, for bulkhead fireproofing on board ships, for marine boilers of such types as Babcock and Wilcox, and Belleville. Also for use in buildings, as fireproofing and sound deadening. For example—a hot flue passing through a dwelling room may be entirely protected with slabs in this way. The slabs are of maximum size of 3 ft. long by 6 in. wide, but

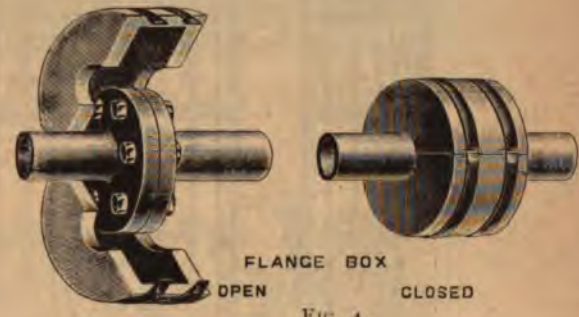


FIG. 4.

may be cut to any thickness up to 4 in.; usually 1 in. and 1⅜ in. thick is found to be quite sufficient.

MAGNESIA PLASTIC.

Magnesia plastic covering is sent out in the dry form, and is used either dry or wet. When dry it can be easily packed into spaces to keep out heat, as in iron houses or the sides of refrigerating chambers. It is an excellent sound proof, and is so light that it may be placed on ceilings for this purpose. When mixed with water it is used for trowel work on irregular surfaces, and thus furnishes in a convenient form a most efficient non-conductor.

The material must be mixed with water sufficient to form a soft mortar. The surface to be covered should be warm and quite free from grease. The first coat ought only to be about ¼ in thick, and allowed to dry before applying the second. The last coat should bring the thickness to 1¼ in. or 1⅜ in., and be smoothed to an even surface with a trowel. The surface ought to be firm and white when dry, and needs no further protection unless exposed to the weather, when it is advisable to either paint or varnish the surface. This is best done by first applying a mixture of glue size with a little whitewash, then two coats of paint.

Restrictions of space prevent us from fully describing all the other various forms in which magnesia covering is sent out and the various purposes for which it is used, but the illustration given will afford an idea of its application on a large scale (Fig. 6) to the boilers and steam pipes required in connection with the Glasgow subway. In such a network of piping it is easy to imagine how much steam would be lost by condensation.

SOME MODERN COKE-OVEN SYSTEMS.

AN INTERCHANGEABLE OVEN.

INTRODUCTION.

DURING the last few years the question of coke production in coke ovens has been of growing importance. Comparatively recently there were but few ovens working in this country. Much was heard of their success in Germany, Belgium, and France, but those who took the trouble to investigate these systems seemed to find that it was not quite the same thing to work them in this country. The difference in the coals, and the prejudice against the coke, coupled with many other factors, made most of those who looked into the matter very cautious, and the extension of the coke-oven system of coking progressed slowly.

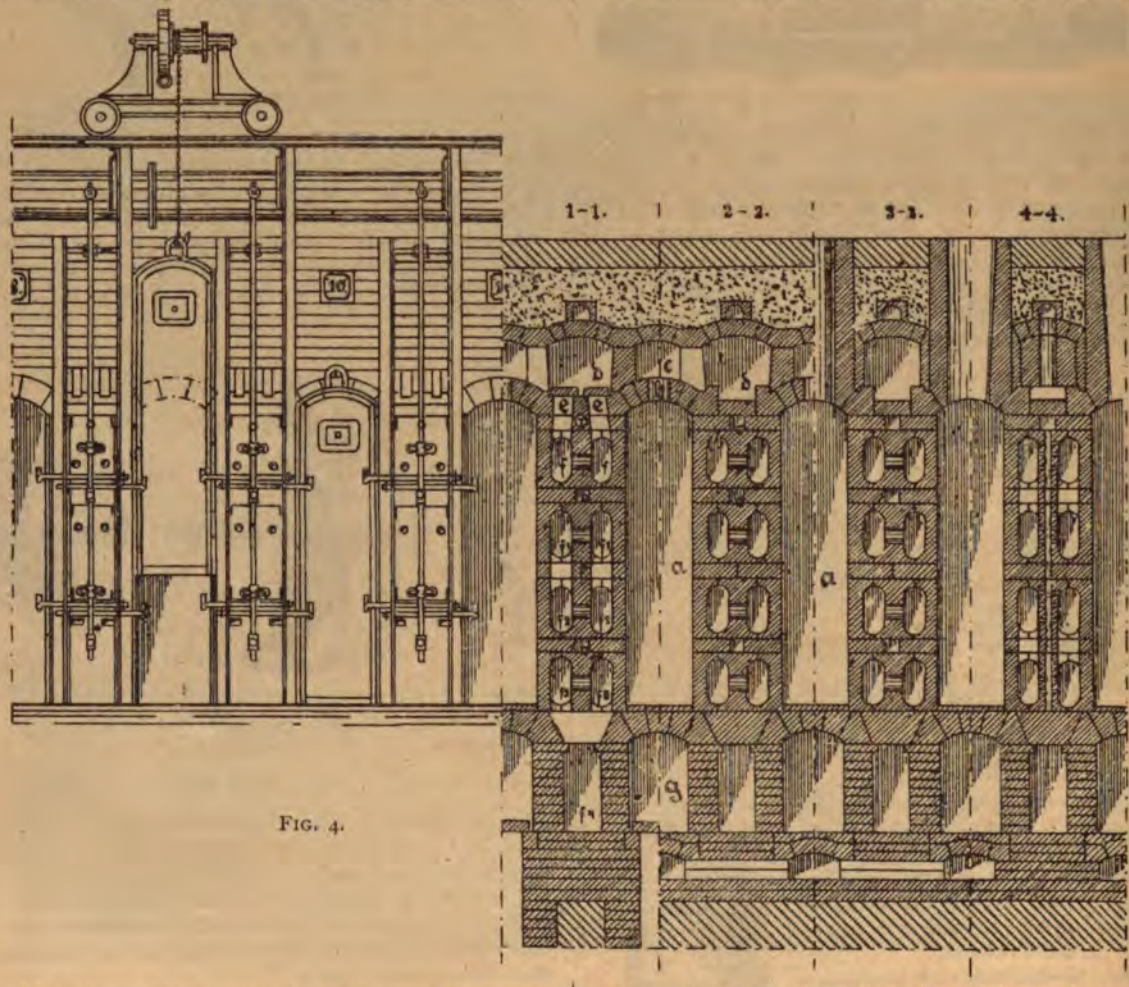


FIG. 4.

As the need for economy became more pressing, however, the matter received closer attention, with the result that several systems have been modified to suit local conditions, and have now been successfully exploited in this country. We have, therefore, endeavoured to bring together some particulars of well-established systems for the guidance of those who wish to know just what is being done, and in so doing have purposely confined ourselves solely to processes or systems that are actually working in this country, and are within easy reach of all those who wish to see for themselves. The first oven we shall describe is that known as

THE COLLIN'S COKE OVEN,

which we have taken first, as it is one of the newest systems, and is an oven that can be used at will either as a recovery oven or not.

It has been said, and with some degree of truth, that the foreign competition to which this country has been subjected during recent years has given a fresh impetus to English enterprise by inducing our manufacturers to devise more expeditious and more economical methods of production than they had hitherto adopted. In regard to coke making in particular Mr. F. J. Collin, of 1, East-parade, Leeds, has been doing much to help colliery proprietors and others by introducing his improved type of coke-oven.

The chief feature of this patent coke-oven is that it does not need any structural alteration or entail any extra expense in changing from a recovery to a non-recovery one, for it can be used at will either with or without the recovery of bye-products. This interchangeability is of great importance nowadays, when the market for the bye-product is so mercurial.

Moreover a special arrangement in the construction makes it possible to convert the whole charge into a coke of uniform quality throughout without any loss. Coupled with these advantages, there are the additional benefits of substantial construction, simplicity of operation, and a good output of high-quality coke and bye-products. The cost of erection is stated to be moderate. This oven, which can be adopted to any kind of coal, has already been fitted up in England, Germany, France, Belgium, Russia, and Chile, while in China another type has been erected, and at all these places the results have proved highly satisfacfory.

The first experiments with this horizontal system were made at "Anna" pit of the Koelner Bergwerksverein, in Altenessen, Westphalia, and subsequently at the "Hansa" pit of the Gelsenkirchener Bergwerks Act. Ges., in Rhein-Elbe, near Gelsenkirchen. As they proved successful, the erection of a complete coke-oven plant of the latest type has been contracted for by the Compagnie des Mines de Vicoigne and de Noeux, Noeux-les-Mines, France, where they are giving full satisfaction. It has been especially interesting to find that the quality of the coke produced and the amount of the bye-products obtained has exceeded the results obtained with the earlier installations of these ovens.

Besides being simple and stable in construction, these ovens turn out in a short space of time very large quantities of waste gases, which are used as a direct source of heat in raising steam, etc. Its chief feature is that the method of working, say in connection with the recovery plant, may at any time be changed by simply moving dampers, and this without any stoppages or expense.

the ovens are to be utilised solely for the manufacture of the coke, the generation of steam or other purposes.

The gases leave the coking chamber marked A (Fig. 4) by means of the openings marked B placed in the ceiling of the oven, which lead into the top flues marked C. There they are divided into several sections, and are in direct communication with the adjacent flues D

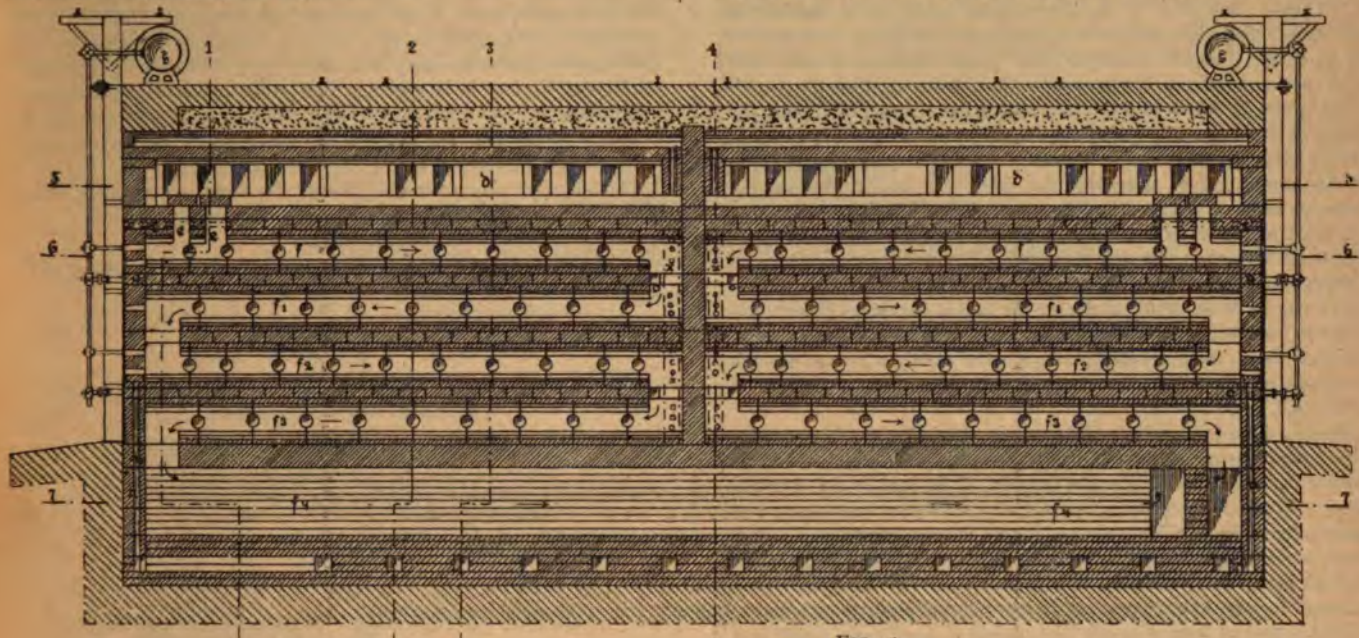


FIG. 5.

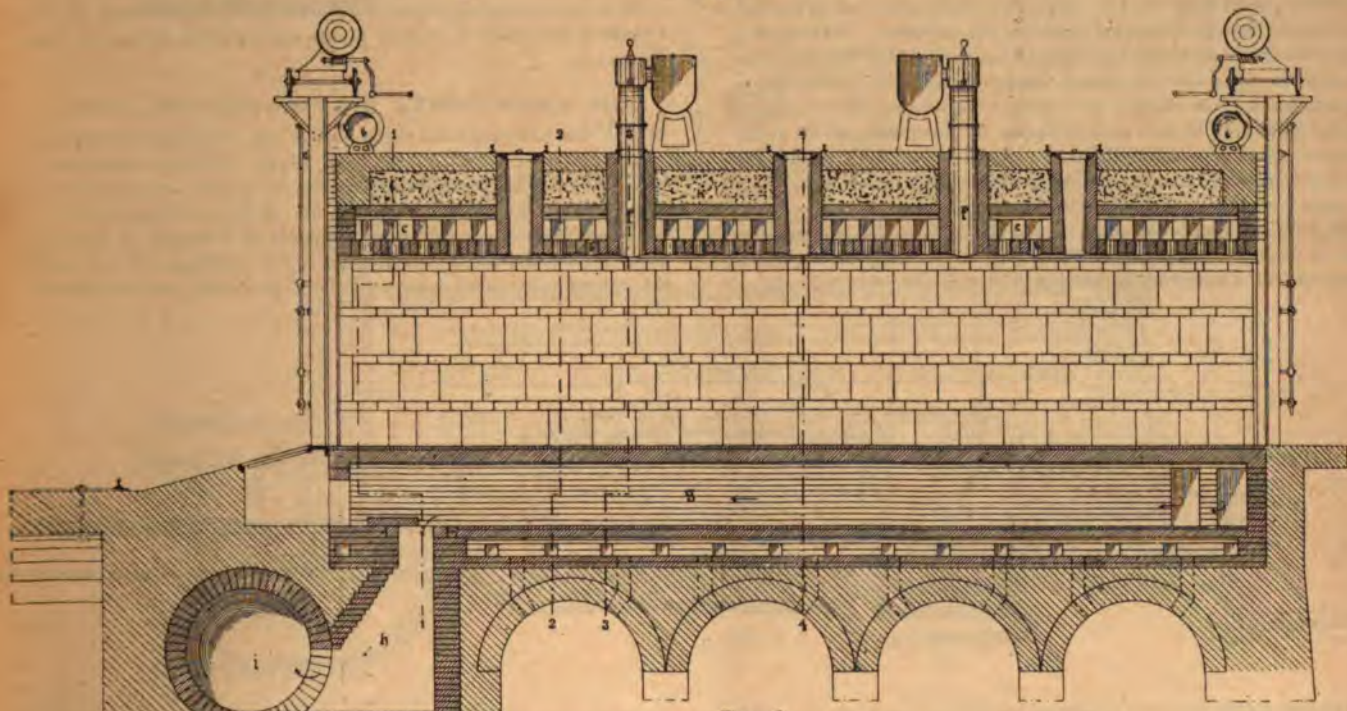


FIG. 6.

The uniform heating of the walls and passages assures an even carbonisation of the coal, and when the flow of the heating gases is regulated by slides, the whole operation is under complete control. The following particulars show how the ovens are to be used when the collection of the bye-products s not being conducted, and when the gases from

(Figs. 4 and 5). Here they are divided into two equal parts, which communicate through dampers E to the side flues F1, F2, F3, F4, and arriving there proceed next to the flue or collector which conveys the gases into the bottom of the oven G (Fig. 6). Thence they pass through the inclined opening H into the chimney, or they may be

intercepted before passing to the chimney and used for heating steam boilers or other similar purposes. When the recovery of bye-products is to be accomplished, the slides E must be closed so as to stop the communication between the coke chamber A and the side flues F. Then the gases evolved from the coking chambers are exhausted by means of exhausters through receiving mains, which are shown at the openings F. Thence they pass to the bye-product plant to be treated by scrubbers, condensers, and other special apparatus for the extraction of tar, ammonia, benzol, cyanides, etc. After these constituents have been extracted the gas is returned to the coke-ovens through pipes S (Figs. 5 and 6), which lead the returning gas to the flues F1, etc. By means of these pipes the gas is distributed to inlets specially adapted for the purpose in the flues of the side walls of the ovens. In addition to the means before described for admitting and consuming the gases in the flues, is a special arrangement for introducing a quantity of gas into the interior of the ovens, whereby a regular heat is secured. Combined with the admission of the gas in the manner described is an arrangement for the combination of the gas with such a proportion of air as may be desirable for sustaining the heat at the most efficient temperature for effecting the thorough and rapid carbonisation of the coal. By these means the process of coking may be evenly regulated through the whole length of the coke oven, and thus secure even carbonisation of the coal.

Besides the advantage of quick coking thus effected, this arrangement affords the means of alternately admitting air into the flues as may be desirable according to the quantity of the coal to be operated upon. These arrangements give the Collin oven great advantages over many other types of coke-ovens and ensure the production of a sound, good, homogeneous coke. Considerable benefit will also be experienced through being able to admit air at suitable parts of the flues so as to increase the heat when necessary in order to facilitate the process of coking. Special burners or gas inlets (made of small pipes placed in a refractory cover) are situated in the side walls, and terminate about the middle of the flues F1, F3. Air with a slight admixture of gas may be admitted through these small pipes or the air-holes. Leaving each end of the side walls at the beginning of the oven vaults, the air is conveyed to the place and distributed through small holes on the top of the side walls. The effect of this arrangement is important; it secures greater uniformity of heat and increases the durability of the oven. Another advantage resulting from this special arrangement is that the tar is not destroyed to anything like the same extent as in other kinds of ovens where the side walls are superheated.

Thus the working of the ovens may be so regulated that the temperature is kept at the point at which a perfect coking of the coal is achieved with a minimum destruction of the valuable bye-products.

Hall Colliery, and contracted also for the coke from Collin's ovens at the Snydale Colliery of Messrs. H. Briggs and Son and Co. This oven ensures the production of a silver-grey coke, and thus the prejudice of the black appearance is successfully overcome. This, of course, is partly due to the improved arrangement of their bye-product plant, which we shall take an opportunity to describe later on. It is no secret that as regards many of our collieries, especially in Yorkshire, the recovery of the bye products from the coal frequently converts the loss on the production into a very substantial profit for the colliery owner. In view of this fact it is probable that other industrial undertakings using much fuel will produce their own coke, as is already the case in certain alkali works. No doubt many other works in the chemical trade may be expected to follow suit in due course.

The following figures show the prospective profits for a coking plant of 60 retort ovens, working with the complete recovery plant.

PRODUCTS.

By coking 100,000 metric tons of coal yearly, the following bye-products are obtained at least:—

1,700 tons	Sulphate of Ammonia	at £8 10 0	£10,200 0 0		
3,300 ,,	Tar	at £1 10 0	£4,950 0 0		
550 ,,	Benzol	at £24 0 0	£13,200 0 0		
77,000 ,,	Coke	at £0 13 0	£55,050 0 0		
				£83,400	0 0

EXPENSES OF MANUFACTURE.

110,000 tons	Coal	at £0 5 0	£27,500 0 0		
1,200 ,,	Sulphuric Acid	at £1 10 0	£1,800 0 0		
200 ,,	Lime for Ammonia Stills	at £0 13 0	£130 0 0		
43 ,,	Absorbing Oil for Benzol	at £4 4 0	£201 12 0		
	Steam and Water		£600 0 0		
	Lubricants		£100 0 0		
	Labour, Appointments, & Rates		£6,000 0 0		
	Repairs		£100 0 0		
				£36,431	12 0
			Net	£46,968	8 0

After deduction of depreciation for costs of the plant and land, having a value of say £60,000, we have profits realised in 20 years more than £600,000.

THE SIMON-CARVES BYE-PRODUCT COKE OVEN.

THE first of these patent ovens, which were established in France, have been working ever since 1852-3, and this experience of nearly 45 years has enabled the ovens to be altered and improved in many details; and, at the same time, has shown how important it is not to deviate from the first great principle of "solidity of construction," as, for instance, by unduly reducing the thickness of flue walls through an exaggerated desire to produce the largest possible quantity

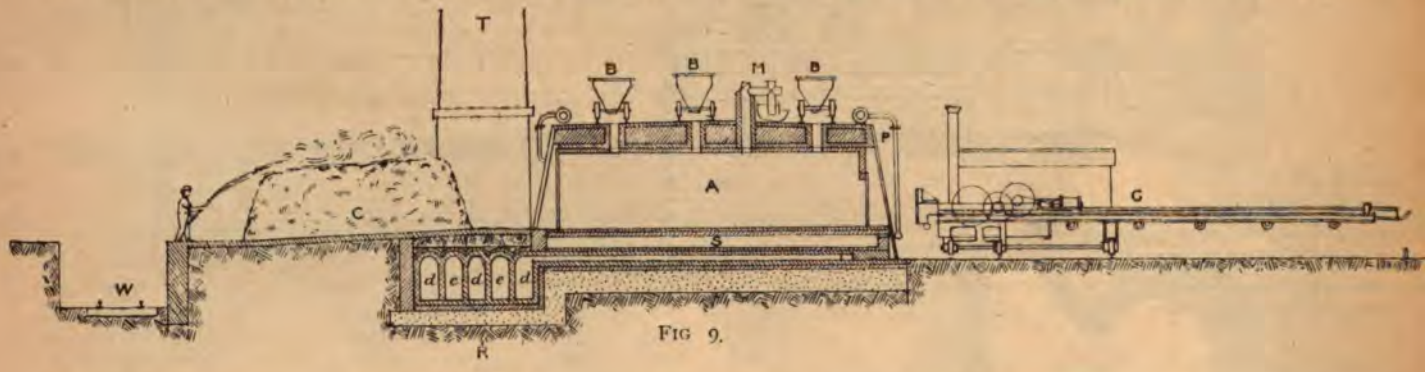


FIG 9.

Thus the Collin system is typical of modern progress, as it secures the highest output of a first-class coke, meeting all the requirements of the trade. There need be no fear that the coke will not comport itself well in blast furnaces, etc. With regard to this Mr. Mannaberg, the manager of the Frodingham Ironworks, after many comparative experiments, says the coke produced by Collin's system is, amongst all others, the most suitable for blast furnaces, being the hardest and densest in the market. In consequence of its superior quality the Frodingham Ironworks employ all the coke produced at the Ackton

in the shortest possible time. Until this system of coking was introduced by Mr. Henry Simon, M.Inst.C.E., of Manchester, at Messrs. Pease's collieries near Crook, in the county of Durham, in 1882, a general conviction had prevailed that coke made in any other than the Beehive Oven must necessarily be of inferior quality; any prevention of the waste of coal which other descriptions of ovens might effect, it was believed, was more than counterbalanced by the assumed depreciation in the calorific value of the coke. That assumption has now been dissipated by the practical experience obtained in many blast furnaces

and foundries in this country, thus leaving the way clear for the coke-maker to reap the extra profits to be obtained not only by collecting the bye-products of the coal in the process of coking, but also by the largely increased yield in coke from a given quantity of coal. The advantages claimed by Mr. Simon attracted the attention of Messrs. Pease, of Darlington, the largest coke makers in England, who caused investigations to be made into the working of the system, and then decided to erect a number of these bye-products coke ovens to thoroughly test the system, with the result that they have now many volatile matter.) In addition to this there is the loss in the yield of coke. For instance, 100 tons of Durham coal in the Simon-Carves oven yield, say, 75 tons of coke; by the Beehive system the yield would not be more than 50-60 tons, or a loss by the old system of 40 to 50 per cent. on the quantity of coke obtainable from a given quantity of coal. To illustrate the case further, to obtain the 8 000,000 tons of metallurgical coke used annually in this country requires by the old process, say, 14,500,000 tons of coal, whereas by the Simon-Carves process it would require, say, 10,500,000 tons of coal, a saving in coal

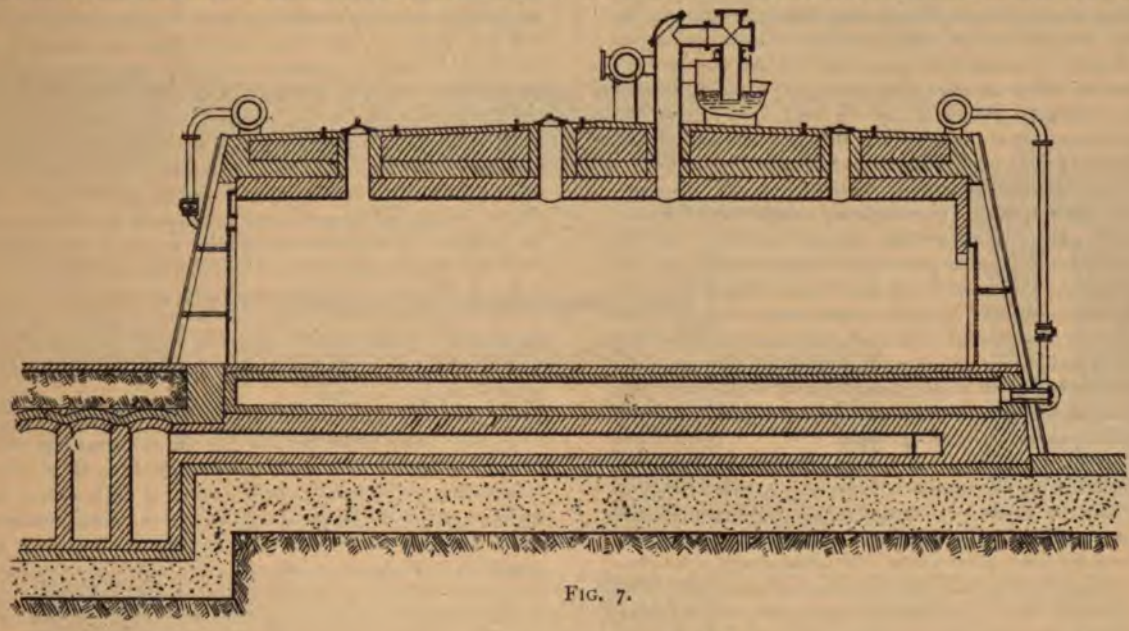


FIG. 7.

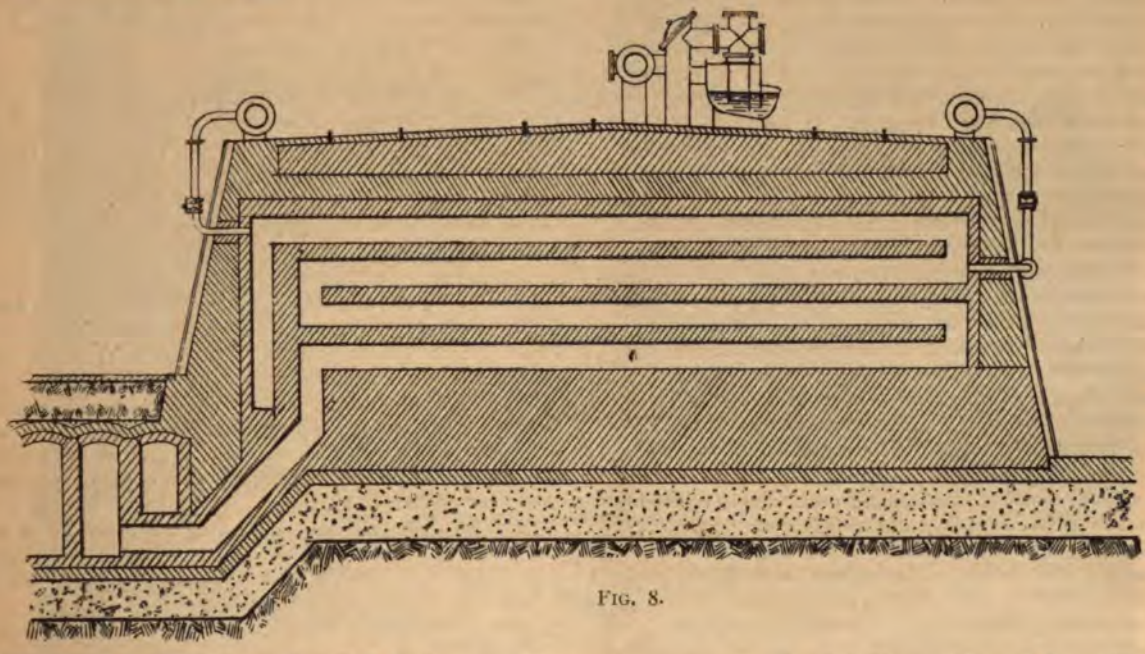


FIG. 8.

batteries of these ovens successfully at work, having in the course of years repeatedly and considerably increased their plant.

The constant waste occasioned by the continued use of the Beehive oven is at present equal to many shillings per ton of coal for the bye-products alone, according to the description of the coal coked. (At the Durham Coke and Bye-Products Co.'s plant at Malton Colliery, near Durham, the bye-products recovered actually represent 4s to 6s. per ton of coal, according to market prices and quality of coal coked, the coal at Malton on an average containing about 25 per cent. of alone, not to speak of the bye-products, of four million tons per annum. Again, to put it in the converse way, 14,500,000 tons of coal by the old process will give, say, 8,000,000 tons of coke, whereas by this process it would give 10,500,000 tons of coke, or an extra profit to the coke maker of 2,500,000 tons of coke. The cash value of this can be estimated by any person interested in this branch of the trade, but we think it can safely be reckoned at considerably over a million pounds sterling per annum, not taking into account the profit on the bye-products which, if reckoned at only 4s. per ton of coal, represents

nearly three million pounds sterling, or a total loss by the old system to the coke-makers of four million pounds sterling per annum.

Each Simon-Carves oven is in the form of a long, high, narrow chamber of brick-work (A, Fig. 9), and a number of these are built side by side, with partition walls between them, containing the horizontal flues, as shown in Fig. 8. Flues S are also arranged underneath the floor of each oven. The flame and its products of combustion pass from the tuyeres along the whole length of flue under the oven floor; these then ascend by a vertical flue to the uppermost of several horizontal flues, and descend in a zig-zag direction along each side of each oven, finally passing into the heat recuperator, in which the air supply necessary for the combustion of the gases is heated by means of the waste heat of the gaseous products of combustion, which are intercepted and used on their way from the ovens to the chimney. By this means the coke oven is heated at the bottom and also evenly at the sides, and the coal becomes rapidly and completely coked. The volume of air necessary for the combustion of the gas being ten times as large as the volume of gas, it is manifestly unscientific not to heat this overwhelming volume of air, which, if introduced cold, necessarily reduces the heat of the ovens. All the more is this the only true scientific proceeding when the heat, as in this recuperator, can be supplied *gratis*—that is to say, by what is generally called the waste gases—namely, the gases which have previously given all the heating power it is possible to give off to the ovens proper, and which are on their way to the chimney. Provision is also made for extra admissions of gas and air at intermediate points of the flues if the quality of the coal makes it desirable to thus further equalise the heat at every point of the surface of the coke ovens.

The Simon-Carves recuperator is entirely self-acting, and consists of five flues arranged side by side underneath the coke platform (R Fig. 9.) Three of these flues (*d*) serve for conducting the air to be heated, and between them are sandwiched two flues (*e*) conveying the hot waste gases of combustion coming from the oven flues. The arrangement is therefore such that the heating of the air to a high temperature is effected in flues that are entirely out of contact with the brickwork of the ovens proper.

It stands to reason that the use of an arrangement like the Simon-Carves recuperator, ensuring a continuous action, consequently a continuously equal temperature, must be superior to the use of, for instance, Siemens' regenerators, which are first at a high temperature and then gradually cool down, necessitating a frequent reversal by hand valves of the air and gases of combustion, as well as causing repeated expansions and contractions of brickwork. By introducing hot air of even temperature instead of cold air, the ovens work with far greater regularity.

The mode of recovering the bye-products by the Simon-Carves system is as follows: The ovens are charged with coal by holes at the top from coal tubs (B) running on rails (Fig. 9). The coal is evenly distributed by rakes introduced through suitable openings in the end doors, the latter being kept closed and tightly luted while the coal charge is being coked. From the top of the oven rises a gas ascension pipe (M), through which the gases are aspirated from the ovens by means of exhausters, and passed through a condenser to cool them. They then pass the exhausters and are forced to the ammonia scrubbers. The weak tar and ammonia liquor obtained in the condenser are separated, and the weak ammonia liquor is sent to the scrubbers. The gases pass up the scrubbers while the ammonia liquor, finely distributed by means of the material in the scrubber, flows from the circulating tank downwards; this circulation being repeated a great number of times, until the ammonia liquor gradually becomes strong enough for distillation and manufacture into sulphate of ammonia.

The gases after being passed through the ammonia scrubbers are conducted through another series of similarly constructed scrubbers, in which oil is used as an absorbent for the light hydro-carbons or benzols contained in the gases. These oils are circulated through the scrubbers many times over, until such a state of concentration has been obtained that they are ready for distillation for the subsequent manufacture of refined benzols. The residual gases are then returned to the ovens and burnt.

When the coke is ready to be discharged from an oven, the coal for the next charge is got ready on the top of the ovens over the charging holes.

The two end doors are then opened and the mass of coke is pushed out from the back of the oven on the coke platform by means of a coke ram (G), worked by a portable steam engine running on rails in front of the ovens. The coke is then quenched as usual and is ready for sending away.

Immediately after the coke has been discharged from the oven, the two end doors are closed, the charging holes opened, the coal charged into the oven, and raked level; the charging holes are then closed and the coking process begun afresh. The operations of discharging and charging an oven should not take more than 15 minutes.

A few years ago Mr. Henry Simon (now the chairman of Simon-Carves, Ltd.) formed a limited company for the purpose of building an installation of these bye-product coke ovens, and demonstrating the pecuniary advantages of the Simon-Carves system. Having found a willing colleague in the person of Colonel Sadler, of Middlesbrough, the owner of Malton Colliery, an installation of seventy bye-product coke ovens with the residual plant for the recovery and treatment of the tar, benzol, and ammonia was put down at the colliery, Lanchester, co. Durham. The general commercial success of the undertaking has been such that the plant was recently doubled, and advantage was taken of this extension to incorporate in the new ovens several improvements, suggested by the experience of the preceding fifteen years; in consequence of which greatly improved results have been realised. The time of coking is reduced to under 24 hours, with the output of coke correspondingly increased.

The attention of colliery proprietors, blast furnace owners, and others is specially drawn to the fact that the Simon-Carves Bye-product Coke Oven Construction and Working Company, Ltd., of 20, Mount-street, Manchester, are prepared to build plants on their system, finding the whole or part of the necessary capital, and to recoup themselves for the outlay by taking only part of the bye-products recovered, the colliery proprietor receiving the remaining part of the bye-products, together with the whole of the profit obtainable from the coke. The Simon-Carves Company relinquish their claim to any share of the profits after a certain tonnage of coke has been produced, and the complete installation then becomes, without any payment whatsoever, the free property of the colliery proprietor.

THE SEMET-SOLVAY OVEN.

MANY estimates have been published professing to show with more or less accuracy the life of the coal fields in the United Kingdom. That attention has been thus directed seems to indicate the great importance to our manufactures of the future of the coal supply, and any process which is able to show economy in the use of fuel must be of widespread interest.

It is difficult to obtain exact figures as to the amount of coke annually made in the United Kingdom. Taking into consideration what is used in the manufacture of pig-iron, cement, iron foundries, and also for export, it cannot be far short of 10 million to 11 million tons, representing 20 millions to 22 millions tons of coal.

The coal fields of South Wales produce coking fuel containing perhaps less volatile matter than any other district, and coal is there coked with only 15 per cent. to 16 per cent. From the low percentage named, and up to as much as 33 per cent. of volatile matter, there is a large range of coking fuels distributed throughout the coal-fields of the country. The best coking coals contain 22 to 24 per cent. of volatile matter, and these should yield 75 to 78 per cent. of their weights of coke when treated in the retort oven, although they seldom yield 60 per cent. in the beehive oven.

Early in the eighties different forms of retort or closed ovens were suggested, but they have made little progress until comparatively recent years. Even at the present time by far the larger quantity of coke is made in the old-fashioned beehive oven or its equivalent. With similar fuel, retort ovens produce 12 to 15 per cent. more coke from a given weight than the beehive oven, in which the products of distillation are burned and destroyed by the introduction of air, consuming at the same time part of the coke and largely accounting for the decreased yield.

The object of all retort ovens is to coke or carbonise fuel by a source of heat external to the chambers containing the fuel. The yield of coke is therefore at its maximum, and if the ovens are properly designed,

constructed, and worked, the coke will be harder and denser than that produced in the beehive oven. The former, however, is darker in appearance owing to the fact that it has been watered or quenched outside the ovens. Yet unit for unit of weight, when properly made, it goes quite as far in the blast furnace and fetches, at the present time, as high a price in the market.

Among the leading types of retort ovens may be mentioned the Semet-Solvay, which oven has been introduced into this country mainly by Mr. Darby, of Brymbo, near Wrexham. This oven varies in width to suit the coal under treatment. Rich coals usually require a wider oven than the leaner varieties. Sixteen inches to eighteen inches is a common width for an oven, and with a length of 33 ft. and height of nearly 6 ft., make a chamber capable of producing about 3¾ tons of coke in 24 hours. On either side of the coke, and as shown in the Figs. 2 and 3, flues are arranged through hollow bricks. In these the gas for heating the ovens burns with the necessary air, and the products of combustion pass along from the top flue, zigzagging downwards, first from one end of the ovens to the other, until they join in the gas flue under the oven (Fig. 1), and are drawn from thence into the main chimney flue. The walls of the ovens are heated on both sides, and in turn transmit their heat to the oven chamber. The ovens are so constructed that the gas as produced is collected, cooled and treated for tar, ammonia, and benzol, and it returns to the ovens for burning as fuel after this treatment.

The design of ovens is of great importance, and should be so arranged that the combustion of the heating gas in the flues can be readily observed and regulated. The oven chamber should be kept at a uniform temperature. The heat should be quickly transmitted from the heating flues to the fuel, and provision for quick and thorough repairs should be made. These points have been carefully studied in the Semet-Solvay ovens, and have been as far as possible provided for. The horizontal flues allow of free inspection and regulation of gas and air. The admission of gas at various points provides for regular temperature. The channel flues with their thin sides rapidly transmit the heat, and as they have only to support their own weight they do not quickly deteriorate. The main structure of the oven is carried by an

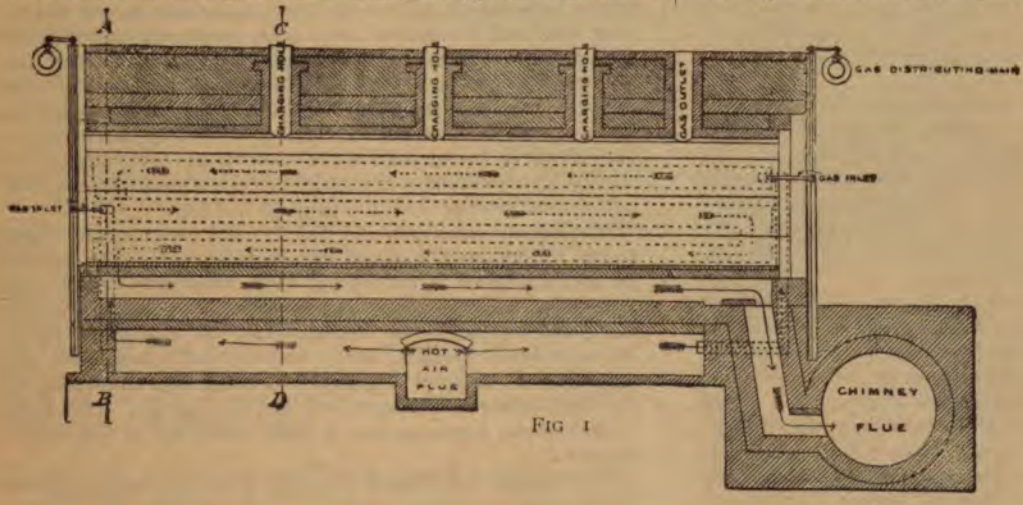


FIG 1

FIG. 3A.

independent arch on solid supporting walls between two ovens. The flues or lining can be readily removed and repaired without occasioning disturbance to any other brickwork, and in practice each oven can be so repaired while adjoining ovens are at work.

Some idea of the comparative value of the retort oven *versus* the beehive may be gathered from the following table :—

	From one unit of Fuel. Beehive produces in value.	Semet-Solvay produces in value.
Coke	55	65
Tar	*Nil*	5
Ammonia	*Nil*	9
Benzols	*Nil*	18
	55	97

A considerable quantity of steam is produced when boilers are introduced between the ovens and the chimney, and this should be considered as a bye-product. It is probably nearly the same in either case. In the Semet-Solvay it represents about a unit and a quarter of water evaporated per unit of coke made. From the foregoing figures it will be seen that the retort and bye-product oven gives in value from a certain quantity of fuel £97., while the beehive oven only yields £55. This must be of enormous national importance.

On the other side a largely increased cost of plant must be taken into consideration. Four beehive ovens, with their proportion of boilers for utilising the waste heat will cost about £300., and will make nearly the same amount of coke as one Semet-Solvay oven, but the latter will cost, with its full proportion of bye-product plant, about £750. On the Continent for a number of years, and in America more recently, bye-product ovens have been largely adopted. There are indications that English proprietors are waking up to the great loss they are sustaining in not following the lead of their Continental friends, and whenever this is fully carried out we shall produce sufficient sulphate of ammonia to supply the whole of our requirements for nitrogenous manure instead of importing over a million tons of nitrate of soda per annum, and we shall be able to supply benzol for enriching the whole of the gas made in this country instead of purchasing enormous quantities of petroleum spirit from abroad.

R. & J. DEMPSTER, LTD.

THIS well known Manchester firm of gas-works' specialists have adapted their successful "bye-product" plant for the purposes of coke ovens. Their experience has taught that the plant required to fix and recover the volatile products from coal must be designed to suit the particular nature of the coal it is proposed to carbonize. The very unsatisfactory results obtained with coke bye-products plants in this country, have arisen solely from this cause coupled with the small area of the various apparatus. Colliery proprietors in the past have visited Continental works and seen the coking plants in operation, and have imported *en bloc* the entire plants, which although they may be suited to the Continental coals and atmospheric conditions are entirely out of place in this country. There are a few instances where the coal contains very little volatile matter, and it cokes freely, producing a good hard metallurgical coke, but these places are the exception. To treat the gases from a highly volatile coal upon Continental methods destroys many of its recoverable products and must necessarily lose a large percentage of the hydrocarbons and benzols by so changing their chemical composition, that they create other insoluble compounds which choke the plant and cause endless trouble and loss. Messrs. Dempster find that often when a gas company changes its coal contracts, alterations in the apparatus are required, so variable are the constituents of even gas coals, and, when such a factor is considered, it is evidently out of place to fix up plant primarily intended for a coal having a small quantity of volatile matter, very free nitrogen, fluid tar, and forming practically, no naphthalene, to deal with a coal having directly opposite qualities.

We learn that the firm are very busy re-modelling existing plant and erecting new apparatus; and from the result of their experience, they are of opinion that all iron works should have their own coking plant and recover the bye-products.

Our Book Shelf.

INTRODUCTION TO THE STUDY OF ORGANIC CHEMISTRY. J. Wade. 460 pp., with Index. Illustrated. London: Swan, Sonnenschein, and Co., Ltd. 1898. 7s. 6d.

This is another welcome addition to the text books prepared in accordance with the beliefs of the modern school of educationists. It is constructed on the experimental principle from start to finish, and the results so obtained lead the way to the explanation of the theories and hypotheses. The importance of the latter is in no way dwarfed, but by beginning the study of the science in the same manner as it has been developed, it is believed that a better insight into the probabilities of future developments will be afforded. The first of the three parts into which the book is devided deals with typical compounds of simple construction, such as the alcohols and acids, leading up to synthesis and molecular construction. The theory of structure is extended by the study of such compounds as the aldehydes and secondary alcohols. The theory of substitution as revealed by the study of the ethane hydrocarbons and paraffine series concludes the first part.

The aliphatic compounds and their nitrogen derivatives are covered in part II., the three-, four-, and six-carbon derivatives being illustrated by the investigation of the glycerol series, unsaturated alcohols, vegetable acids, sugars, cyanogen and amine derivatives, etc. Part III. has special reference to the aromatic series, and explains the benzene poly-substitution products, methyl-benzenes, and complex ring compounds of the diphenyl, triphenyl, and azo groups, terminating with the ring compounds of nitrogen, etc., and the alkaloids. The contents of each chapter are summarised in charts, which will be very useful to teachers.

An arrangement that makes the book far more connected than many of its compeers is the inclusion of all manipulative and laboratory details in an appendix, divided into chapters corresponding with those in the main text. All the illustrations are from photographs, and for the most part are good; though there are instances in which there is such a lack of definition as to render the illustration useless. The general get-up is decidedly good, and the arrangement of the charts most successful.

As a whole the work is entitled to rank among those text books which every teacher and student of organic chemistry should examine before making a final adoption.

BREWING CALCULATIONS. C. H. Bater. 340 pp., with Index. London: E. and F. N. Spon, Ld, 1897.

This booklet, which is in waistcoat pocket form, contains a number of useful tables and calculations for brewers and others. Such matters as excise regulations, duties, and licences are dealt with, while the hints on first aid in accidents are by no means out of place, when judged by their scope. The absence of algebraical symbols and the ample explanations of all the calculations will commend it to many, and especially to junior excise officers and brewers' pupils. A number of very useful tables not directly bearing on brewing are also given, and will be found by no means superfluous.

LA FABRICAZIONE DELL' ACIDO SOLFORICO, DELL' ACIDO NITRICO, DEL SOLFATO SODICO, DELL' ACIDO MURIATICO. By Dr. V. Vender. 312 pp. Milano: Ulrico Hoepli. 1898. Lire 3·50.

A useful little volume, with 107 woodcuts, amongst which we are pleased to see many which have not earned the contempt of familiarity. The subject matter is dealt with under the three main headings of Sulphuric Acid, Nitric Acid, and Hydrochloric Acid, and, though making no pretensions to the completeness of detail which characterises the standard work of Lunge, this little book is well worthy of a place in the library of the acid maker who wishes to know all about his subject. A well-selected series of tables at the end of the volume adds materially to its value.

MANUALE DEL CHEMICO E DELL' INDUSTRIALE (Seconda Edizione Rifatta). By Dr. L. Gabba. 442 pp. Milano: Ulrico Hoepli. 1898. Lire 5·50.

This is a collection of tables for the use of analytical and technical

chemists, chemical students, and those having the oversight or management of chemical processes. The book has, of course, its English, French, and German counterparts in such works as Lunge & Hurter's Handbook, Bailey's Pocketbook, the Agenda du Chemiste, Biedermann's Chemiker Kalender, etc., but we know of none more complete than the one before us. There is an appendix of analytical data.

LEGHE METALLICHE ED AMALGAME. By J. Ghersi. Milano: Ulrico Hoepli. 1898. Lire 4·00.

This book is uniform in size and binding with the two foregoing from the same press. It consists of 423 pp. and has 15 illustrations. Its contents are well indicated by its title, and we regard it as a useful *résumé* of the subject.

KALENDER FÜR ELECTROCHEMIKER. By Dr. A. Neuburger. 346 pp. (Supplement 276 pp.). Berlin: M. Krayn; Fischer's Technologischer Verlag. 1898. M. 5·0.

This wonderfully cheap and compendious mass of information on all subjects connected with electro-chemistry has followed the example of the Chemiker Kalender and relegated part of its subject matter to a supplement. The diary is excluded from the number of pages named above. Some idea of the extent and completeness of the work may be gathered from the fact that the table of contents alone occupies eighteen pages of closely printed matter. The twenty-three pages devoted to technical electrolysis bring us well up to date, but it is to be borne in mind that most of the figures in this chapter relating to costs of production will probably undergo a good deal of modification before they can be invested with the same stability that attaches to similar figures in connection with older industries.

PURIFICATION OF SEWAGE AND WATER. By W. J. Dibdin. 248 pp. Illustrated. London: The Sanitary Publishing Co. 1898. 21s. net.

This is the work of an enthusiast, and enthusiasts are always in danger of becoming bores. We are pleased to say that not only has Mr. Dibdin escaped this danger, but his book is a most interesting and welcome contribution to our information upon a problem of world-wide importance. The volume in appearance and finish is calculated to do credit to the Sanitary Publishing Co., and, if we overlook a slight tendency to verbosity, is of a most readable character from beginning to end. The writer's main argument is a plea for bacteriological purification, and it is difficult to close the book without feeling that he has made out a very strong case. He shows how normal sewage contains the elements of its own regeneration inasmuch as the very matters which render it unpalatable and objectionable to the rest of creation are the very pabulum which hosts of ever present bacteria require in order that they may increase and multiply till the materials of their feast are finished, and the noxious elements converted into harmless compounds. Antiseptic methods of sewage treatment are condemned, partly because they only give a more cumulative character to the evil, and partly because the presence of most antiseptics is injurious to the free growth and development of the friendly bacteria who represent Nature's own method of solving the problem. Of course it is conceded that to obtain the benefit of the maximum bacterial activity certain conditions are requisite, and these are defined as being the "very slow motion of very thin films of liquid over the surface of particles having spaces between them sufficient to allow air to be continually in contact with the films of liquid." There are many points upon which we are not in complete accord with Mr. Dibdin's views, but want of space forbids our dealing with them now. Round one of these in particular, the permanganate test for absorbed oxygen, the Manchester Section of the Society of Chemical Industry is at present waging a war of discussion, and it is perhaps to be regretted that the volume under review gives such vague definitions of the information yielded by a test of such assumed importance.

A TREATISE ON CHEMISTRY. By H. E. Roscoe and C. Schorlemmer. Vol. II. (metals), 3rd Ed., 1,192 p.p., including Index. 191 Illustrations. London: Macmillan and Co., Ltd. 1897. 31s. 6d.

The second volume of this work has been completely re-arranged in accordance with the great advances which have been made during the nineteen years which have elapsed since the appearance of the first edition. The classification of the elements instead of being scantily treated in the last chapter, now occupies twenty-three pages in the opening portion of the volume. The way the fulfilment of Mendeléeff's prophecies has been realised, is most strikingly shown. The arrangement of the book is based on the Periodic system. The manufacture of sodium by Castner's process is decribed, and much fresh matter about the dioxide has been included. The manufacture of soda is, of course, fully explained, with numerous drawings, while the Chance-Claus process of recovering sulphur from alkali waste receives the attention it deserves. Naturally electrolytic processes are looked for with some amount of curiosity, but the latter is not likely to be satisfied as beyond a one-page account of the Castner-Kellner process no mention at all is made of electro-chemical developments.

Under copper, there is an account of the familiar processes, including a fairly extensive reference to the application of the Bessemer process to copper refining, but the electrolytic refining process that has made such headway in the States is dispensed with in nineteen lines. Under silver nitrate among the salts of silver, a short outline of the chemistry of photography is introduced. Gold mining is ably treated, the cyanide and chlorination processes being described.

Calcium is a metal that is dear alike to the hearts of the chemist and the reviewer, as it brings up the composition of "bleach," and the manufacture of calcium carbide. According to the way the "bleach" controversy is handled it would appear that Odling's theory has been justified, and we are inclined to agree with the summing up. Calcium Carbide is referred to, and that is about all. There is no description of the Willson process. Aluminium is an interesting section, including as it does, all the various electrolytic process now at work from Foyers to Niagara. It is important to note, however, that there is absolutely no reference to the Castner process that a few years back promised to make Oldbury an important aluminium producing centre. Under the salts of aluminium there is a full account of the manufacture of alum. We are pleased to see the authors in no way countenance "aluminum," the American abreviated title for this metal.

Lead and its desilverisation is treated at some length, all the three well-known processes for removing the silver being described. Manganese is another section about which there is nothing derogatory to be said. The volume closes with an interesting chapter on Argon and Helium. Though, so far, we have mostly indicated what may be termed the weak points, it is almost superfluous to add that the volume as a whole is an immense advance upon the old edition, and the associated revisers (Drs. Colman and Harden) are to be complimented on the thoroughness with which their work has been performed. Valuable as it has always been, this re-casting of the second volume has greatly enhanced the value of this standard treatise on inorganic chemistry.

THE PRINCIPLES OF CHEMISTRY. By D. Mendeléeff (translated by G. Kamensky, and edited by T. A. Lawson). Second edition (English). Vol. I., 621 p.p.; Vol. II., 518 p.p., with Index. Illustrated. London: Longmans, Green & Co. 1897. 36s.

It is a pleasure to welcome a second English edition of this work, seeing that it has run to six editions in Russia. None of the essential features of the work show any signs of alteration, though there are many additions. There are evidences of want of balance. Under oxygen there is no mention of Brinn's process, though those of Tessié du Motay and Kassner are referred to. The chemistry of Brinn's process as worked out by Boussingault is, of course, mentioned.

In several other ways particularly as regards the fledgelings, Argon and Helium, the author betrays a mixture of conservatism and scepticism. After all, perhaps, it is as well for one eminent authority to adopt such an attitude.

There are many instances in which this edition shows an advance upon the old one, but, under the circumstances, there is nothing which calls for exhaustive treatment from the reviewer's aspect.

The book gives to the student of chemistry a more comprehensive and thorough insight into the foundations of the science than almost any other work, and, in consequence, it is and long will remain, a standard among standards in the field of chemical literature.

LENNARD'S CONTINUOUS TAR STILL.

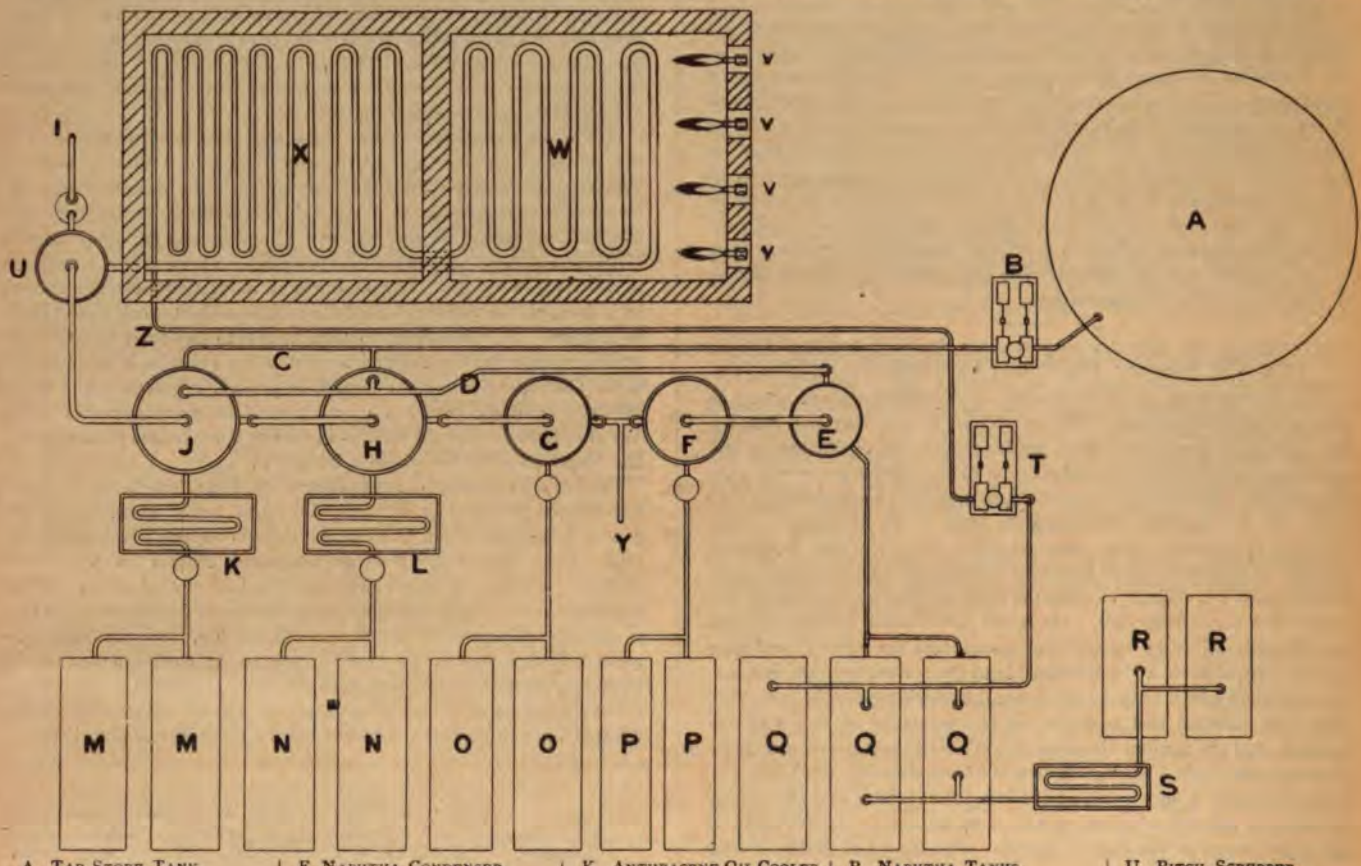
AT the present time when dangerous employment committees and sensational journalists are so busy conveying exaggerated notions to the minds of the average public, it is a pleasant duty to describe some of the improvements in chemical plant that are fast robbing the chemical trade of many of its terrors.

The continuous still for the distillation of tar which we are about to deal with is no fledgeling. It first came before the public as a patent in 1891. Since then it has been operated and improved at the patentee's tar distilling works near London, until it has been brought as near perfection as possible.

Apart from its technical and many other advantages, it has a claim upon all public health reformers, in that it enables the distillation of tar to be carried on without creating the merest semblance of a nuisance. Those who know the characteristic—though harmless and microbe-killing—odours of a tar distillery will be able to appreciate this statement in all its fulness.

However, as our object is not so much to descant upon the benefits this still confers upon the public, as upon its more interesting technical merits, we will proceed at once with the detailed account of its construction and working principles. This can best be accomplished by tracing the crude tar from the store tank to the still and thence down to the crude products that result from its treatment.

In order to heat the crude tar before it enters the still it is used as a cooling agent in the condensing or fractionating portion of the plant, so that it makes its first appearance at the back end of the process, as it were. Having grasped this point and noted the lettering and descriptive references on the plan-view diagram shown in Fig. 1, it will be an easy matter to follow the annexed description of the process, which is a continuous one. The cold tar is pumped by the pumps B from the store tank A, along the pipe C, into the jackets of the condensers J and H, where, acting as the cooling medium it abstracts heat from the vapours which are driven off the hot tar in scrubber U. After this preliminary heating it passes by the pipe D to the tar scrubber E. This scrubber, packed with suitable scrubbing material, is heated at the starting of the still, after which it is kept sufficiently hot by the warm tar. On entering this scrubber the tar, as it flows in thin layers over the large surface of scrubbing material, gives off the naphtha and ammonia water, which is condensed in F and stored in P. The heated tar passes into the store tanks Q, where any naphtha vapours given off are caught by the condenser S and stored in R. The hot tar is then pumped by T straight to the economiser X, which it enters at Z. Gradually becoming hotter, it passes onwards into the still, where the tar becomes heated to any required temperature. The heated tar leaves the still and passes to the scrubber U, where it meets in its descent a current of steam, which deprives the tar of all its vapours, and the resultant hard pitch falls to the bottom of the scrubber, where it is softened by the addition of oils to whatever softening point may be required; it is then run off by I to the pitch beds. The gaseous products from the tar pass on to J, where the anthracene oils are condensed, cooled by the coil in K, and finally run by gravity into the store tanks M. The gaseous products again pass on to H, where the creosote oils are deposited, being cooled likewise in L on their way to the store N. Only the light oil remains, and this is separated in G, in turn passing to the store tanks O. It will be remembered that cold tar is used as the condensing medium in J and H, but water is used in G and F, which is introduced at Y. Thus the tar is fractionated into the usual products, though the process is just reversed, the heaviest products being separated first. This is an



A Tar Store Tank.
B Tar Pump.
C Tar Pipe to Condensers.
D Hot Tar to Tar Scrubber.
E Tar Scrubber.
F Naphtha Condenser.
G Light Oil Condenser.
H Creosote Oil Condenser.
J Anthracene Oil Condenser
I Pitch Outlet Pipe.
K Anthracene Oil Cooler.
L Creosote Oil Cooler.
M Anthracene Oil Tanks.
N Creosote Oil Tanks.
O Light Oil Tanks.
P Naphtha Tanks.
Q Hot Tar Tanks.
R Second Naphtha Tanks.
S Second Naphtha Cooler.
T Heated Tar Pump.
U Pitch Scrubber.
V Oil Burners.
W Still.
X Superheater.
Z Tar Inlet to Coil.

FIG 1.

obvious point, because it will be seen that the process is not one of fractional distillation, but fractional condensation.

The still itself, W, is not a still in the customary sense of the word, as there is no fractionation—it is rather a vaporiser. It consists of a bed of swan-necked pipes situate in a horizontal plane that has a fall of about 18 inches from the tar entrance Z to the range of burners at V. The pipes also, for obvious reasons, gradually increase in diameter from the inlet to the outlet nearest V. As will be seen from the plan view, the body is divided in the middle by a partition, forming an economiser X on the left, with the still proper on the right. The latter is heated by oil injector burners V, fed with oil and dry steam, the steam being dried in a special superheater under the economiser X, which is not shown. By a most ingenious if rather complicated form of furnace the flames and hot gases from the burners are diverted alternately right and left by baffle walls and flues, so that the heat is very evenly distributed and conveyed to the pipes wholly by radiation as opposed to flame contact. Obviously the greatest heat is obtained at the point where the tar leaves the still. The hot gases, after passing zig-zag fashion through the heating chambers in the still, pass in the same way through the economiser, and uniting in a central flue, pass back underneath the still into the main chimney flue at a low temperature. The vapours on leaving the scrubber are conveyed to the condensing plant in insulated pipes. All the connecting pipes between the condensers are insulated, and again from these to the store tanks, are steam jacketted. The tar is being continuously forced through the economiser and still under pressure, while the condensers are kept under a vacuum. This vacuum is ensured by a special arrangement, which is, however, quite simple.

Having thus followed the *modus operandi*, it will be easily understood how it is that there is no smell and how, having regard to the general arrangement and the small quantity of tar being manipulated at one time, the danger from fire is reduced to a minimum.

Though the description of the process may appear cumbersome in the telling, the actual plant is by no means so, as a glance at Fig. 2 will show. This illustration represents one of the largest plants put down, and is in operation in Scotland, where it is doing 1,200 gallons of tar per hour. There are three other plants at work capable of doing 900 to 1,200 gallons per hour, while yet another plant is in course of erection by Messrs. R. and J. Dempster, Ltd., Gas Plant Works, Newton Heath, Manchester, who have undertaken the manufacture and erection of these stills for the patentee.

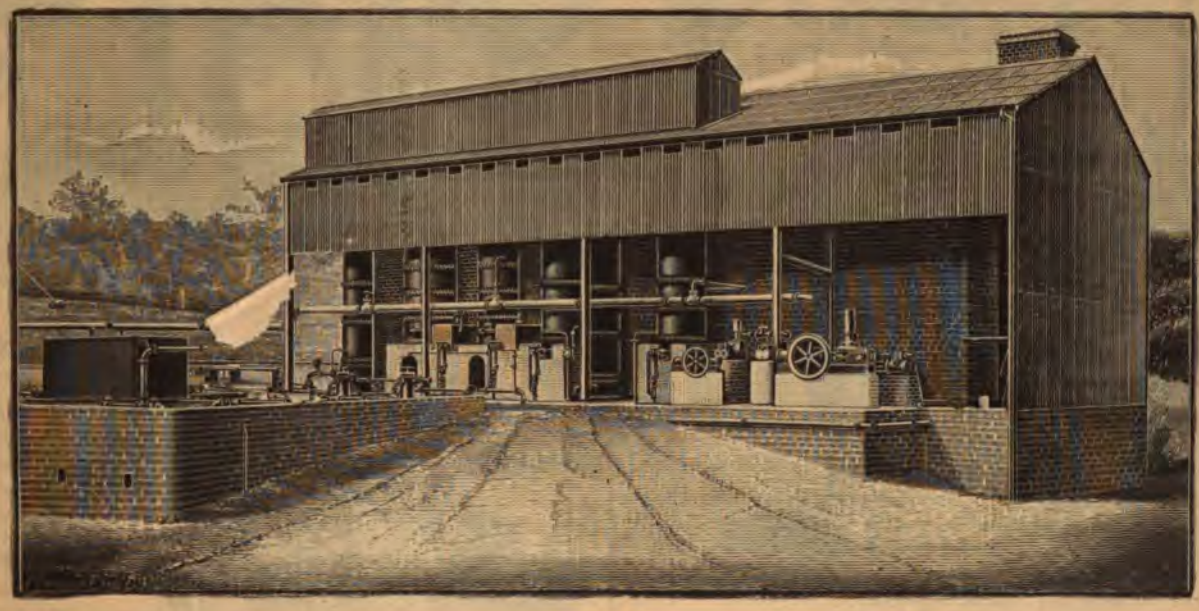


FIG. 2.

Laboratory Hints & Chemical Plant.

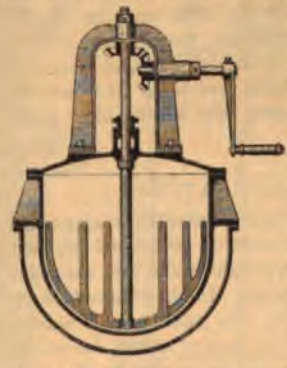
A BENZOLINE BURNER.

THIS burner is known as the "Giant Climax." The container is of stout brass. A few strokes of the pump are sufficient for pressing the benzoline to the patent vaporiser. It burns with intense heat,

giving a perfectly blue flame. It is almost noiseless. The container remains cool even after long burning. It is made by Messrs. O. Berend and Co., Ltd., Dunedin House, Basinghall-avenue, London.

AN EXPERIMENTAL MIXER.

There are many occasions in a technical laboratory when it is desirable to operate upon a few pounds of material, which require to be heated and thoroughly mixed together. The apparatus illustrated here will be found very useful for such purposes. As will be seen, it is provided with a mixer driven by hand power. A point which ought to be noticed is the disposition of the arms on the stirrer. As judged by the central shaft it will be evident that they are not arranged symmetrically. Imagining for the moment that the agitator is revolving, it will be clearly seen that the contents tending to rush to the wider opening on the extreme left, will the next moment be baffled by the three arms on the right. The mixer is jacketted, and so can be heated by hot water, oil, or other medium. It is made by Herren Gebr. Bolze, whose agent here is Mr C. Harzer, of 79½, Gracechurch-street, London.



A HANDY FILTER PRESS.

For rapidly filtering considerable quantities of liquid, the numerous adaptations of the filter pump are certainly very convenient, but they all want careful watching to prevent the filter being sucked dry. Ingenious arrangements have been devised for automatically charging the filter-funnel, but most of them are rather complicated. For technical experiments, in which considerable quantities of liquid require to be filtered at a reasonable rate, the device illustrated in Fig. 1 commends itself. The adjoining cut shows the way the filter is fitted together, after inserting carefully-cut discs of filter paper. The filtrate is discharged from both sides, as the arrows at *a* and *b* show. It can be worked to a pressure of about 2½ lbs. by making the column of liquid 6 ft. high. It is supplied by Messrs. J. J. Griffin and Sons, Ltd., 22, Garrick-street, London, W.C.

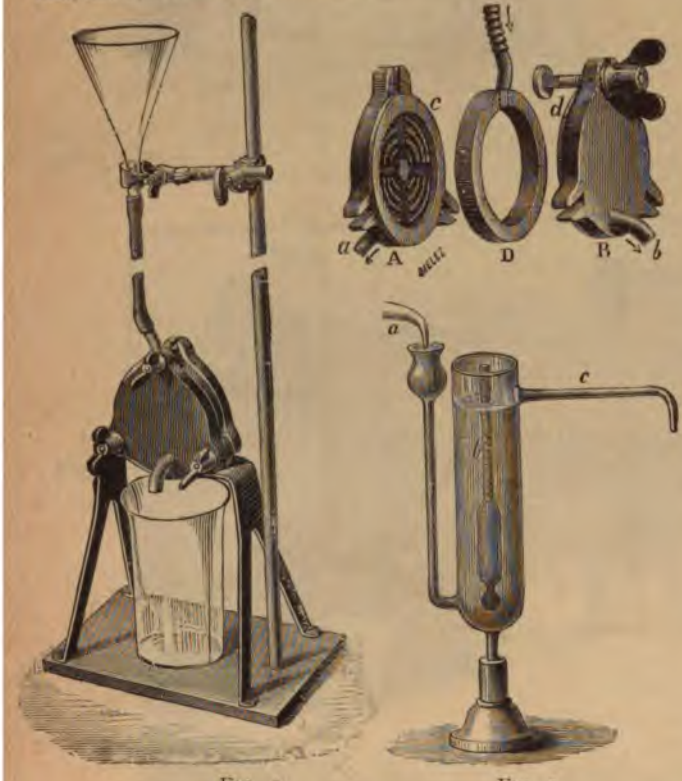


FIG. 1. FIG. 2.

MOHR'S STILL WATCHER.

This simple but useful contrivance is represented in Fig. 2. Its action is self-apparent from the woodcut. It is capable of answering a variety of purposes. For instance, when only a distillate of a given gravity is wanted the distillation can be started, and by an intermittent inspection of the hydrometer it will soon be made clear when the desired fraction is about to come over. In the same way the period during which any distillate of constant gravity is coming over can be easily ascertained. In vitriol works this device will be found useful for checking the density of the chamber drips, and many like uses in chemical works. It is made by the same firm as the filter press described above.

VACUUM DRYING APPARATUS.

Owing to the recent developments of organic chemistry an apparatus for drying in a vacuum will nearly always prove to be a useful adjunct to the laboratory. This form of drying apparatus is also very useful in the analysis and preparation of explosives. In its construction a notable feature is the removable glass end. The jacket can be heated with steam, water, or a toluol bath. In the case of steam, the reflux ball condenser prevents any loss, while the gauge glass on the right always indicates the height of the condensed water or other liquid in the jacket. In the case of the former, the condensation water can be drawn off by the cock whenever necessary. The half-cylinder below the perforated plate, which acts as a support, is made of lead or porce-

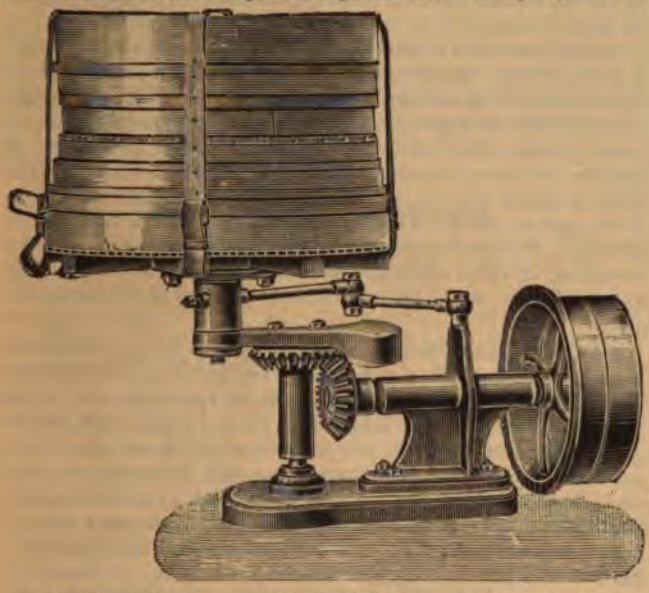
lain, and can be charged with calcium chloride or other drying material. It is made by Herr E. A. Lentz, of 36 Spandauer-strasse, Berlin.

A LABORATORY MIXER AND MILL.

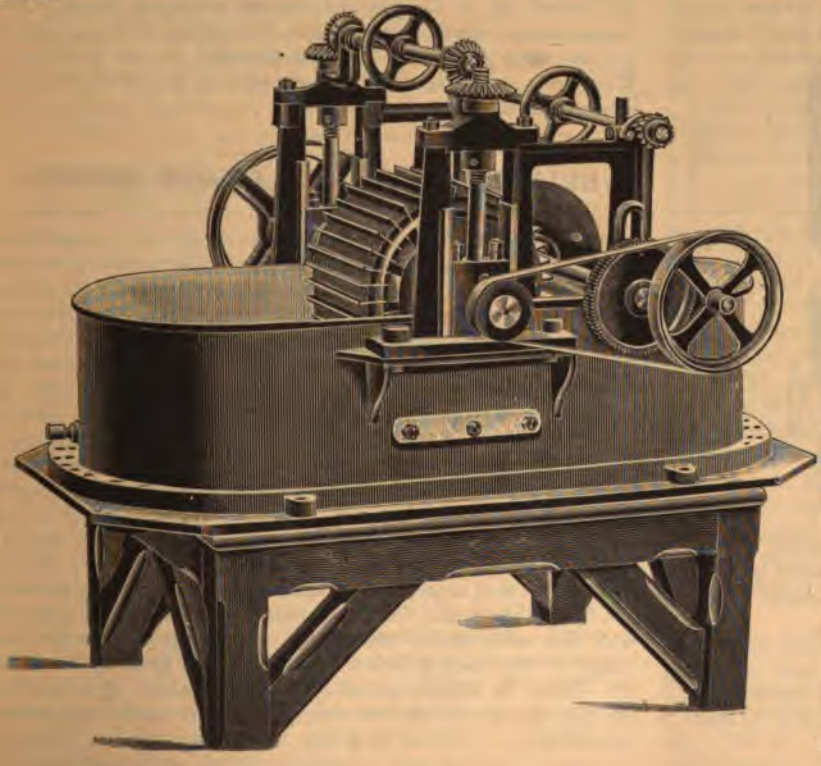
It would not be an easy matter to describe all the uses this apparatus could be put to in laboratories. Not only can it be used for mixing materials, but by the introduction of balls it can be made to do a considerable amount of pulverising. For ensuring the thorough mixture of dry powders it answers admirably. The container is made of copper, but can be of steel, etc., if desired. The mouth is not only contracted, but curved outwards so as to prevent creeping as much as possible. As will be seen from the illustration, the mixer is fitted with a handle, which can be detached easily when it is desired to drive by some other motive power than manual propulsion. Fast and loose pulleys are provided, and also seats for lubricators on the bearings. If intended for use in pharmaceutical laboratories or the treatment of fine chemicals, the container can be zinc-, nickel-, or silver-plated. A machine with a container 8 in. in diameter costs about 50s. It is made by Herr Lentz, referred to above.

AN AUTOMATIC SIFTER.

It is a difficult matter to imitate mechanically the sieving action as performed by hand, but this arrangement comes very near to doing so. Not only are the contents of the sieves constantly disposed to spread to the edges by reason of the centrifugal force generated by the rotation of the driving axis, but the jointed arms cause the sieve carrier to rotate on its own axis with a to and fro motion or oscillating movement, which makes the material pass through the sieve with rapidity. It is a



matter of great convenience that ordinary sieves can be used. Any mesh can be employed, and by inserting division plates four or five different samples can be sifted at the same time, when once fastened to the bottom plate. The lack of any necessity to use specially shaped screens and such like, is a matter which merits special mention, as it renders the apparatus available for a variety of purposes. This also is made by Herr Lentz, of Berlin, whose address is given in a previous notice.

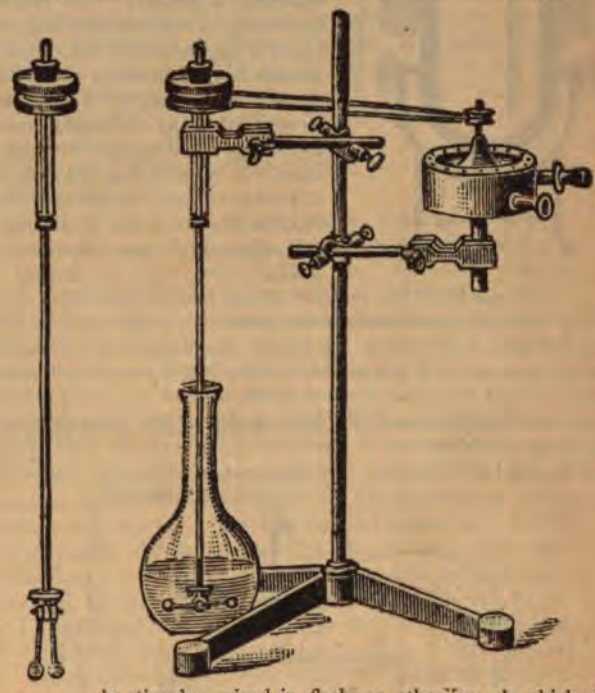


A LABORATORY PULP BEATER.

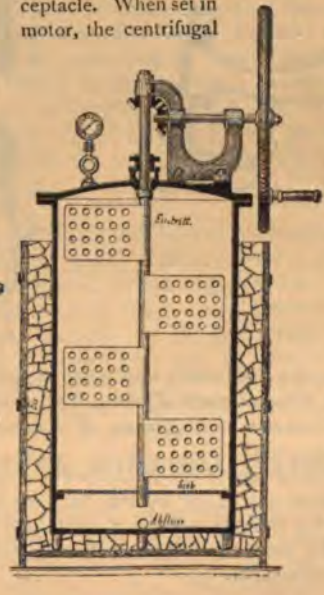
Now that so many mixtures are used in the manufacture of paper, this apparatus will be found useful in making experiments with various materials. There are about 35 knives in the cylinder and 12 in the the bedplate. The container is jacketted, so that the contents can be heated if required. The apparatus is no toy, and is worthy the attention of the modern paper-maker, as affording him a means for preparing various mixtures of pulps and experimenting with them. Like the foregoing, it is made by Herr E. A. Lentz.

A SIMPLE AGITATOR.

It frequently happens that more or less volatile solutions require to



be stirred or mixed in flasks or other vessels which do not expose so much surface as a beaker. The following device, obtainable from Herr C. Gerhardt, Bonn a/Rhine, will be found very useful in such cases. Its action is clearly shown in the illustration which accompanies this description. The two hinged bulbs when at rest can readily be introduced into a flask or other similar receptacle. When set in motion by the water force causes them to separate and effect the thorough mixture of the contents. The general simplicity of the arrangement will commend it to many who have an objection to such mechanical contrivances.



A HANDY COOLER.

Since researches at low temperatures have become more general, this apparatus is likely to prove of considerable use. The agitators are of a novel form. The apparatus driven hand-

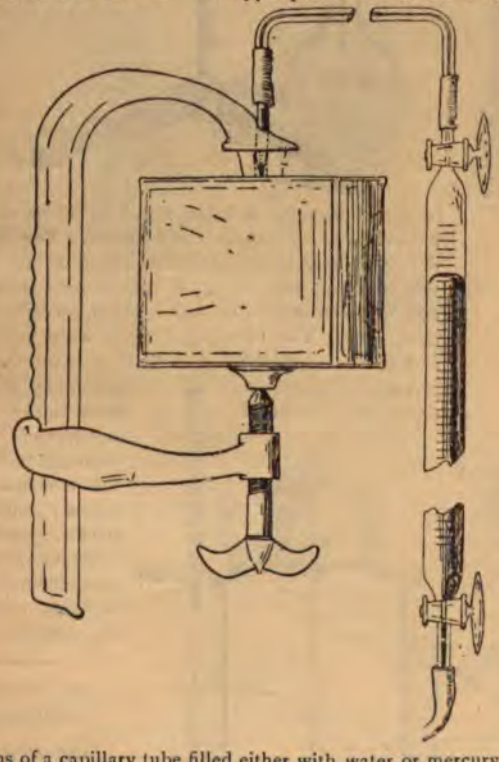
power, and is made by Herren Gebr. Bolze, whose sole English agent is Mr. C. Harzer, of 79½, Gracechurch-street, London.

AN AUTOCLAVE.

This autoclave is heated by steam not direct heat. This enables the heat to be more easily maintained at a constant temperature, a condition which is usually desirable in this class of work. The thermometer tube is also a convenience, as the temperature can be watched and guaged better than would otherwise be the case. It is also self-supporting, a distinct advantage with pieces of apparatus like this which are more or less cumbersome. A pressure gauge is not shown, as one can easily be attached in any convenient position by drilling and tapping a hole in the cover. It is to be obtained from Mr. C. Harzer, of 79½, Gracechurch-street, London, who is the sole representative for the makers in Great Britain.

COLLECTING GASES IN CANNED GOODS.

The following is an ingenious arrangement for collecting such gases, due to Mr. C. A. Doremus. It may be described thus:—A bevelled, hollow, steel needle is attached to the upper arm of an adjustable clamp. The point and lower part of the shaft are covered by a rubber stopper, which serves as a soft pad; the lower arm is moved along the body of the clamp until the can to be pierced is held between the rubber stopper and the head of the screw. The upper part of the needle is connected



by means of a capillary tube filled either with water or mercury, with a receiver also filled with either of these liquids. The receiver may be either a stop-cock eudiometer as illustrated, or a eudiometer with levelling tube attached.

The apparatus adjusted, a turn or two of the screw, clamps the can tightly between the rubber pad at the top and the screw head below. The rubber yields to the pressure, making a tight joint around the needle. When the latter pierces the tin the contained gases of the can escape gently into the eudiometer.

Market Reports.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The Scotch Chemical works are now all back to production again, after the holidays, with the exception of one or two which happen to be affected by circumstances out of the common run. The chief feature of the market continues to be the sulphate of ammonia improvement. Up to now the article has steadily gained and the latest prompt price paid is up to £9. 15s. The fact that this figure has also been paid for delivery forward argues that the buying section is coming round to the conviction that the higher position of sulphate is not a mere temporary phase. Some sellers are already asking £9. 17s. 6d. for prompt. A secondary feature is the continued advance of sulphate of copper, about which as high as £16. 15s. has been spoken. Bleaching powder seems to be slightly firmer. These are the only movements calling for mention. Mineral oils and paraffins are in a fair average demand for the season, at prices nominally unchanged. A full settlement of the engineers' affair would help the market position of lubricating oils greatly.

Chief prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 5s. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 17s. 6d. to £5. 7s. 6d. nett, Glasgow; caustic soda, white, 74° £8. 0s. 0d., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1. cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 4d. nett, for Scotch and English deliveries (for export, 3¾d. nett, f.o.b. Glasgow); bichromate of soda, 3¾d. nett, for Scotch and English deliveries (for export, 3d. nett, f.o.b Glasgow); chlorate of potash, 3⅝d. less 5%, any port; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 15s. to £9. 17s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £33. and £31. nett any port; sulphate of copper, £16. 15s., less 5% Liverpool; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 12,300 parcels (bags and otherwise) beet unrefined.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The collapse of the engineers' strike will be agreeably received in the trade here, for the public here have given the employees but little sympathy. The imports to date for the year as against the same time a year ago, have been:—Linseed, 19,782 qrs. against 15,720 qrs.; rapeseed, 7,358 qrs. against 6,005 qrs.; cottonseed, 8,273 tons against 9,016 tons; oilcake, 815 tons against 170 tons; olive oil 233 tuns against 124 tuns; tar, 56 barrels against 50 barrels. Amongst the cargoes due within the next few days there is one of 200 tons of canary seed. Linseed oil at the time of writing is better than it has been, but the closing quotations are standing the same as a week ago. Linseed oil, spot, 14s. 3d., naked, month buyers at 14s. 4½d., forward May-Aug., 15s. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil spot 12s. 9d. naked; forward May-August 13s. 6d. Crude spot 11s. 6d. naked; filtered refined £1. to £1. 5s. per ton extra; casks £1. and ordinary barrels £1. 10s. per ton extra. Olive oil appears to hold firm in all positions with very small stocks; quotations from £32. 15s. to £34. per tun. Castor oil—this trade in Hull is an improving one for town extracted oil. Firsts, in barrels, 31s. 6d. per cwt.; in cases, 3 11/16d. per lb. Seconds, 30s. 6d. per cwt.; in cases, 3 9/16d. per lb. Resin remains firm and unchang . Cod oil £15. 10s. to £18. 10s. per ton. Oleines

unchanged. Italian olive soap £16. per ton, 60% fatty acids. Brown grease from £7. per ton. Arachide nut oil, £28.

CAKES.—Various feeding stuffs are firm in all positions. Linseed cakes firm, 95% pure, £8. to £8. 1s 3d.; Russians, £7. 6s. 8d. to £7. 11s. 3d.; Polish, £7. 15s. Oil cakes (linseed) £6. 17s. 6d. to £7. Cotton cakes steady, fresh orders scarce, best makes £4. to £4. 1s. 3d.; seconds £3. 17s. 6d. to £3 18s. 9d. Rape cakes, Black Sea, £4.

PAINTS.—Makers are fairly well employed, with little passing to cause alteration in market values, which are largely regulated by qualities. White and red leads unchanged. Dry mineral colours £3. to £8. Ready mixed paints £24. per ton. Ultramarines from 3d. per lb. Lime blues £12. Paint remover 25s. cwt. Black varnish £5. per ton in barrels.

TAR AND AMMONIA PRODUCTS.

Benzols have declined still further, 90's now being quoted 1s. 3d. to 1s. 3½d. and 50/90's 1s. 5d. There is nothing fresh to report in carbolic acids, prices remaining as last quoted. Napthas are quieter and solvent is now offered at 1s. 7d. Crude keeps about the same. Anthracene business is not encouraging as regards prices Pitch is very weak at 18s. to 18s. 6d. f.o.b., East Coast.

Sulphate of ammonia is very firm and in good demand, especially towards the close of the week. The equivalent of £10. f.o.b. Liverpool has been paid during the last few days. Nearest closing prompt values are:—Beckton, £10.; London outside makes, £10.; Liverpool, £9. 18s. 9d. to £10.; Hull, £9. 18s. 9d.; Leith, £10. For forward a premium of 2s. 6d. to 5s. per ton is asked. Nitrate of soda steady at 7s. 6d. to 7s. 9d. cwt.

REPORT ON MANURE MATERIAL.

There has been no great activity in the market, but a fair amount of spot business has been done.

Sellers of mineral phosphates are very firm at their quotations, but there is very little doing to U. K. ports. Continental buyers are now inquiring for 1898 shipment, but if any business has been done it has not transpired.

River Plate bones are in request, and probably £4. 2s. 6d. per ton would be paid for anything of handy size on the way.

For Bombay bone meal £4. 5s. per ton has been accepted for parcels afloat, and this price would probably still be business, though for retail lots £4. 7s. 6d. per ton is required.

Nitrate of soda is firm at 7s. 6d. per cwt. for ordinary, and 7s. 7½d. per cwt. for refined quality.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is a moderately good demand for all the main products. Caustic soda is in stronger position for prompt delivery, and prices are firm at quotations which have ruled for some time past, viz., f.o.b. Liverpool 77%, £8. 5s.; 74%, £8.; 70%, £7. 2s. 6d.; 60%, £6 2s. 6d. 10 ton lots. For forward delivery, however, slightly lower prices are accepted. Bleaching powder is steady for home trade at £5. 10s. f.o.r. makers' works, and for export £5. 15s. to £6. 5s. f.o.b. Liverpool. Ammonia alkali, £4. to £4. 2s. 6d., bags, f.o.r. makers' works. Soda crystals and bicarbonate are steady. Chlorate of potash and soda have a lower tendency, and spot quotations are 3⅝d. and 4¼d. per lb. respectively, while lower prices are accepted for forward delivery. Sulphate of copper is again dearer at £17. to £17s. 5s., f.o.b. Liverpool, and considerable business is being done for spring shipments. Sulphur £4. 10s., f.o.r. makers' works. Brown acetate of lime firm at £5. 15s. to £6., c.i.f.; grey, £7. 15s. to £8. per ton. Acetic acids unchanged. Acetate of soda £11. 15s. to £12., c.i.f. Other acetates without alteration. Brown sugar of lead scarce. White powdered arsenic steady at £21. for best brands, but a little easier for forward delivery. Ammonia salts, excepting sulphate, are quiet. Aniline oil and salt are quoted lower for forward delivery. Sulphocyanides dull. Yellow prussiate of potash firm at 6¾d. Cyanide 1s. 1d. prompt, and 1s. forward delivery. Zinc salts are steady. Nitrate of soda 7s. 6d to 7s. 7½d. per cwt. Glycerine has a rising tendency. Copperas is in better inquiry and prices are firm. Phosphates of soda and ammonia are still freely offered at lower prices. Demand for chemicals generally is only moderate in the home trade, but prices are suggestive of improvement as the general demand becomes more active.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 45s. 11½d.; Middlesbro', 40s. 10½d. cash; and hematite, 48s. 11d. Copper steady: Chili bars, G.O.B.'s and G.M.B.'s, closed at £49. 5s. to £49. 10s. cash, and £49. 11s. 3d. to £49. 16s. 3d. three months. Tin firm: Straits closed at £63. to £63. 10s. cash, and £63 13s. 9d. to £64. 3s. 9d. three months; Australian, £63. 17s 6d.; English ingots, £66. Lead firm: Spanish, £12. 13s. 9d.; English, £12. 16s. 3d.; Silesian spelter, ordinary, £18. 2s. 6d. Nickel, 1s. 2½d. Antimony, £30. 5s. Quicksilver: First hands, £7.; second hands, £6. 19s *Copper shares* steady: Cape, 4⅝ to 4¾; Copiapo, 2⅜ to 2½; Libiola, 2⅞ to 3⅛; Mason and Barry, 3¼ to 3½; Rio Tinto, 26⅞ to 27; Tharsis, 6¾ to 7.

GLASGOW, WEDNESDAY.—Market steady, and a good business. Scotch done at 45s. 11d. to 46s. cash, and 46s. 2d. to 46s. 2½d. one month; buyers, 45s. 1½d. cash; sellers, 46s. Cleveland done at 40s. 10½d. cash, and 41s. 1d. and 41s. 1½d. one month; buyers, 40s. 10½d. cash; sellers, 1d. more. Cumberland hematite done at 49s. 2d. one month; buyers, 48s. 11d cash; sellers, 49s. Middlesbrough hematite, buyers, 49s. 6d. cash; sellers, 50s. 3d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—There is only a small quantity of palm oil offering, and though business is rather restricted, prices are well maintained. Olive is very firm, but the scarcity is checking business somewhat. Malaga is quoted £33., and Seville £32. to £32. 10s. per tun. Linseed is firmer, and Liverpool makes in export casks are now quoted 16s. 6d. to 17s. per cwt. Cottonseed quiet, but steady at 14s. 9d. to 15s. 6d. per cwt. for Liverpool refined. Castor oil is firm, with good seconds Calcutta at 3$\frac{5}{16}$d. to 3⅜d., the same prices applying to first pressure French. Tallow is firm, and inclined to advance owing to the shortness of supplies. Resin is moving nicely at the full rates that have obtained lately, the position being about the same for all grades. Spirits of Turpentine are firm, and fairly well inquired for at 24s. 6d. cwt. Petroleum quiet: American 5d. to 6¼d., and Russian 4⅝d.

CAKES.—American Western linseed are in good request, and the quotations are fairly well maintained at £7. 1s 3d. to £7. 7s. 6d., whilst for Liverpool makes the demand is barely so brisk at £8. 5s. to £8. 10s. per ton. Good to choice brands of American decorticated cottonseed cakes are a shade firmer in tone, with sellers quoting £5. 7s. 6d. to £5. 17s. 6d, according to quality, but there is not much improvement to report in the demand. Liverpool makes have a moderately fair sale at previous rates for both decorticated and undecorticated—viz., £6. 5s to £6. 10s. per ton for the former, and £4 to £4. 10s. per ton for the latter, according to brand. Egyptians on the spot are steady, with a fair inquiry going on; sellers are asking £3. 17s. 6d. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12., best £15.; Derbyshire—common 40s., medium 50s, best 60s.; Welsh—best 90s., seconds 50s., and common 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

TYNE CHEMICAL REPORT.

TUESDAY.

The chemical market is still on the dull side though there is perhaps a shade more inquiry. Prices are practically unaltered. Soda crystals are quoted £2. 12s. 6d. per ton, gross weight, locally. Caustic, 70% £7. 10s. and 76/77%, £9, per ton. Bleaching powder from £5. 15s. to £6. per ton.

Bleaching powder, softs, £6. per ton, nett; hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s., per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do., 90/95% crude calcined, £6. per ton nett; sulphide of barium, crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt continues steady at 8s. 6d. to 9s. per ton, f.o.b. Tees.

COALS.—The coal trade is steady with a normal demand. Coke is in fuller request for local consumption, though for export the demand is at present limited. Today's quotations are as follows:—Best Northumbrian steam, 8s. 6d. to 8s. 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. to 3s. 3d. per ton; gas coals, 8s. 6d. to 8s. 9d. per ton; bunker coals, 7s. 9d. to 8s. 3d. per ton; coke, 17s. 6d. to 21s. per ton.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

New Companies.

Fibrous Petroleum & Oil Fuel Co., Ltd.—CAPITAL £250,000. in £1 shares. This company has been formed to adopt an agreement with J. M. Catton, and to acquire, own, and work Patents Nos. 20,156 and 19,677, of 1896, granted to P. D'Humy for the production of solidified fuel from crude petroleum or mineral oils. The subscribers to the memorandum of association are:—Miss E. A. Faithfull, 1, Cologne-road, New Wandsworth; J. Collinson, 12, Vincent Square, Westminster, clerk; C. A. Goffin, Palace-street, S.W., secretary; W. S. Rainbow, 21, Latchford Gardens, Kensal Green, N.W., clerk; C. Flack, 34, Victoria-street, S.W., secretary; W. L. Butler, 8, Norrey-road, Putney, S.W., solicitor; E. C. Webster, 15, Holmfield-road, Chiswick, W., clerk.

Thomas Hedley & Co., Ltd.—CAPITAL £50,000. in 6,000 pref. shares of £5. each and 20,000 ordinary shares of £1. each. This company has been formed to acquire and carry on the business of a soap maker and glycerine refiner, carried on at the City Soap Works, Newcastle-on-Tyne, as "Thomas Hedley & Co.," and to adopt an agreement with the Northern Securities Trust, Ltd. The subscribers to the memorandum of association are:—A. Hedley, Mayfield, Gosforth, Newcastle, soap manufacturer; O. Phillips, 44, Park-lane, W., shipowner; I. J. Swan, Grove House, Gosforth, Newcastle, shipowner; O. Selby, Oakfield, Benwell, Newcastle, gentleman; G. Ferry, City Soap Works, Newcastle, secretary; T. Bowden, 42, Mosley-street, Newcastle, chartered accountant; F. Marshall, 27, Mosley-street, Newcastle, solicitor.

Peat Products of Ireland Co., Ltd.—CAPITAL £5,000. in 980 five per cent. cum. pref. shares of £5. each, and 200 founders' shares of 10s. each. This Company has been formed to carry on the business of manufacturers and dealers in peat, fuel, moss litter, etc., etc. The number of directors shall not be less than 3 nor more than 7. The first are Sir H. G. Bellew, Bart., W. J. Delap, W. Hayes, M. C. Dodwell; qualification 20 pref. shares. Remuneration to be fixed by company. Registered office, 19, St. Stephen's Green, Dublin.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

D. MUNRO and J. J. WHITEHEAD, civil and mining engineers, Manchester, under the style of Munro and Whitehead.

E. R. and A. HARRISON, commission agents, Hull, under the style of Harrison Bros.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 8th.

Acetic Acid—		
Holland,	72 pks	A. & M. Zimmermann
Acetone—		
Canaries,	19 drs.	Matthews & Luff
France,	£240	A. H. Wintersgill
Alkali—		
Belgium,	935 c.	J. G. Back
France,	267	J. Harrison
Alum—		
Holland,	130 cks.	Ohlenschlager Brs.
Alumina Sulphate—		
Germany,	120cks.	R. W. Greeff & Co.
Ammonium Chloride—		
Holland,	40 cks.	H. Lore &
Barium Chloride—		
Germany,	42 cks.	Petri Brs.
Barytes—		
Holland,	25 cks.	T. & W. Mitchell
Belgium,	130	J. L. Lyon & Co.
Germany,	22	Steinhoff, Sons & Co.
Holland,	360 bgs.	Burrell & Co.
,,	67	W. H. Carey & Sons
,,	110 cks.	T. & W. Farmilo, Ld.
,,	311	W. Harrison & Co.
,,	17 pks.	J. R. Francis & Co.
Bleaching Powder—		
Germany,	£35	J. M. Steel & Co.
Holland,	45 cks.	,,
Castor Oil—		
France,	35 pks.	F. Boehm
Italy,	20 cs.	A. & M. Zimmermann
Belgium,	74 brls.	C. & E. Morton
France,	12	J. Greig
Caustic Potash—		
France,	20 drs	Petri Brs.
Chemicals (*otherwise undescribed*)		
Belgium,	£205	T. H. Lee
Canaries,	40	L. & I. D. Jt. Co.
Germany,	225	B. & F. Wf. Co.
,,	42	Craven & Co
,,	5	L. & I. D. Jt. Co.
,,	14	Deering & Robottom
,,	317	T. H. Lee
Belgium,	148	T. Palmer
,,	12	John Cockerill Line
Denmark	56	Crosse & Blackwell
Germany,	10	E. J. Brasch
Belgium	6	Beresford & Co.
Germany,	10	Phillipps & Graves
,,	8	H. Lambert
,,	7	Pickford & Co.
Holland,	20	R. W. Greeff & Co.
,,	21	A. & M. Zimmermann
Germany,	836	,,
Belgium,	280	A. H. Wintergill
Holland,	20	J. Barber & Co
Copperas—		
Germany,	£24	5 cks. A. & M. Zimmermann
Cream of Tartar—		
Holland,	26 cks.	Kirkpatrick & Co.
,,	1	B. & F. Wf. Co.
,,	17 pks.	F. C. Devon & Co.
Italy,	23	Howards & Son
France,	5	W. C. Bacon & Co.
,,	3 cks.	C. Atkins & Nisbet
,,	10	B. & F. Wf. Co.
Belgium,	5	F. C. Devon & Co.
Spain,	8	B. & F. Wf. Co.
Dyestuffs—		
Aniline		
Belgium,	15 pks.	W. Gerson & Co.
France,	3	B. & F. Wf. Co.
Annatto		
Ceylon,	47 cs	W. Greenwoodt
Argols		
Italy,	2 pks.	Bailey & Leetham, Ld.
Cochineal		
Canaries,	13 pks.	Hendry & Martin
Cutch		
Rangoon,	450 pks.	A. Howden & Co.
,,	300	H. A. Litchfield & Co.
Singapore,	100 bls.	Hoare, Wilson & Co.
Extracts		
France,	65 cks.	B. & F. Wf. Co
Gambier		
Singapore,	252 bls.	Bellamy's Wf. Ld.
Japan	1,091 pks.	L. & I. D. Jt Co.
Singapore,	919 bls.	W. Balchin, Ld.
Indigo		
E. Indies,	12 chts	J. Owen
U. States,	20 serons	W. J. & H. Thompson
E. Indies,	3 chts.	Dipnall & Co.
,,	5	F. Huth & Co.
,,	22	L. & I. D. Jt. Co.
,,	28	Park, Macfadyen & Co.
,,	6	Parsons & Keith
Holland.	5	H. S. Wilcocks & Co.
Myrabolams		
E. Indies,	620 bgs	H. K. Daniels
,,	59	620 pks. L. & I. D. Jt. Co.
,,	620	Marshall & French
Saffron		
Spain,	1 pk.	C. Brumlen & Co.
,,	1	L. & I. D. Jt. Co.
,,	1	Nich's Wys., Ld.
,,	2	Richardson, Spence & Co.
Shumac		
Italy,	400 bgs.	H. Johnson & Sons
,,	100	J. W. Cock & Co.
Tanners' Bark		
N. Zealand,	26 t.	Clyde S. S. Co.
Germany,	9	J. Norrenberg & Co.
E. Indies,	4	Grisillay & Co.
Valonia		
Turkey,	75 t.	Boutcher, Mortimore & Co.

Dyestuffs *(otherwise undescribed)*
France, 30 bls. Burnett Brs. & Sons
Farina—
Holland, 50 pks. J. Barber & Co.
French Chalk—
Italy, £180 Harrison & Co.
Glucose—
U. States, 107 pks. 783 c. L. & T. Light C. & D. Co
" 1,000 1,000 E. Thompson & Co.
" 65 390 Page, Son & East
" 50 310 G. Clark
France, 200 200 Trier, Meyer & Co.
Germany, 35 204 Bennett S. S. Co.
Holland, 120 120 J. Barber & Co.
States, 1,000 1,000 Pearce, Pelly & Co
50 300 W. Grose & Co.
100 600 E. & T. Pink
" 275 1,512 Ohlenschlager Brs.
" 1,150 6,471 R. G. Hall & Co.
Glue—
Holland, £12 Phillipps & Graves
Austria, 320 J. Greig
U. States, 12 L. & I. D. Jt Co.
Italy, 81 Thew & Skibel
Belgium, 30 T. H. Lee
Germany, 28 Steinhoff, Sons & Co.
Italy, 150 C. A & H. Nichols
Canada, 25 L. & I. D. Jt. Co.
Holland, 18 H. Johnson & Sons
France, 26 Mery & Co.
Norway, 750 C. A. & H. Nichols
Iron Oxide—
Austria, 14 cks. O'Hara & Hoar
Magnesium Sulphate—
Germany, 250 bgs. Deering & Robottom
Manganese—
Germany, 21 t. H. Johnson & Sons
Mica—
Germany, £20 L. & I. D. Jt. Co.
E. Indies, 760 W. M. Smith & Sons
" 100 W. Brandas, Sons, & Co.
Molasses—
U. States, 50 cks. 290 c. E. & T. Pink
" 100 560 R. G. Hall & Co.
" 50 280 Palmer & Co.
" 200 1,147 C. S. Anderson
Ochre—
Holland, 31 pks. 2 cs. Phillipps & Graves
France, 39 hds. H. Borman
U. States, 162 brls. A. E. Piggott
France, 200 cks. W. Harrison & Co.
Phosphate Rock—
Algeria, 1,600 t. A Ford & Co
Belgium, 370 D. de Pass & Co.
Phosphorus—
Belgium, 10 cs. J. M. Steel & Co.
Germany, 7 c. C. Cross & Co.
Pitch—
N. Russia, 300 brls. Fellows, Morton, & Co.
Plumbago—
Rangoon, 127 cks. L. & I. D. Jt. Co.
Germany, 9 H. J. Enthoven & Sons
Ceylon, 292 Morgan Crucible Co.
Rangoon, 69 A. Howden & Co
Germany, 3 W. J. Davies & Sons
" 20 B. Gallaway
Potassium Bicarbonate—
Germany, 15 cks. H. Lambert
Holland, 69 A. & M. Zimmermann
Potassium Carbonate—
France, 13 cks. Petri Brs.
Germany, 57 c. "
" 200 Howards & Son
Holland, 100 Petri Brs.
Potassium Chloride—
Germany, 100 bgs. Bessler, Waechter,
" 254 Perkins & Homer
Rosin—
U. States, 4,227 brls. Prod. Brokers' Co.
" 3,120 T. Nickels & Co.
" 100 Suter, Hartmann, & Co.
Holland, 6 J. Owen
Rosin Oil—
Germany, 4 cks. H. Hunt
Saltpetre—
E. Indies, 690 bgs. Perkins & Homer

Sodium Acetate—
France, 54 cks. J. Harrison
Sodium Bichromate—
Germany, 44 cks. C. Tennant, Sons, & Co.
Sodium Nitrate—
Bolivia, 2,200 t. Anglo-Contl. Guano Works
Sodium Sulphate—
Holland, 5 cks. H. Lorenz
Stearine—
Belgium, 125 bgs. H. Hill & Sons
" 38 Kumpf & Eckenstein
Sulphur—
Italy, 6 t. G. Boor & Co.
Tar—
Germany, 100 brls. W. Beard & Son
N. Russia, 14 Linck, Moeller, & Co.
Tartaric Acid—
Italy, 10 cks. G. Boor & Co.
Belgium, 13 F. C. Devon & Co.
Holland, 9 pks. B. & F. Wf. Co.
Ultramarine—
Germany, 23 pks. Steinhoff, Sons, & Co.
Holland, 25 Hernu, Peron. & Co.
" 2 W. H. Carey & Sons
" 6 cs. J. Barber & Co.
Varnish—
Germany, 17 pks. Phillipps & Graves
Belgium, 1 T. H. Lee
Germany, 11 "
U. States, 11 Taylor Brs.
U. States, 20 brls. L. & I. D. Jt Co
Verdigris—
France 4 cks. B. & F. Wf. Co.
White Lead—
Belgium, 2 cks. Leach & Co.
" 2 Colthurst & Harding
France, 18 Soundy & Sons
Germany, 28 H. B. Alder & Co
" 50 D. Storer & Sons
" 40 Wilkinson, Heywood, & Co.
" 75 Steinhoff, Sons, & Co.
Holland, 49 D. Storer & Sons
Germany, 21 W. A. Rose & Co
Belgium, 94 brls. T. & W. Farmilo, Ltd.
Holland, 196 cks. "
Wood Pulp—
Norway, 2,600 pks. J. Sharp
" 1,200 Christophersen, Andrews, & Co
" 80 Hummel & Co.
Sweden, 160 W. G. Taylor & Co.
" 68 W. H. Mitchell
U. States, 411 Taylor Brs.
Germany, 510 E. J & W. Goldsmith
Sweden, 3 895 London Paper Mill Co
" 1,184 J. Spicer & Sons
" 272 C. S. Lovell
Holland, 50 "
Germany, 2,000 Tough & Henderson
Sweden, 1,550 Henderson, Craig, & Co.
Germany, 1,100 J. Sharp
U. States, 247 Union Ltge. Co.
Norway, 2,400 London Paper Mill Co.
Germany, 112 Hernu, Peron, & Co
U. States, 580 E. Lloyd & Co
Zinc Oxide—
Holland, 63 cks. M Ashby, Ltd
U. States, 200 "
Holland, 41 J. Matton

LIVERPOOL.

Week ending January 6th.

Acetate of Lime—
New York, 6,379 bgs.
Acetic Acid—
Rotterdam, 20 balloons
Alumina Sulphate—
Rotterdam, 26 cks.
Barytes—
Rotterdam, 21 cks.
Antwerp, 68 50 bgs.
Bone Meal—
Karachi, 3,800 bgs.
Boracic Acid—
Leghorn, 25 cks.
Borax—
Mollendo, 640 sks. B. Greenwold
" 1,560 A. & S. Henry & Co.
" 1,608
Galveston, 3,171
Chemicals *(otherwise undescribed)*
Hamburg, 2 cs.

Colours—
New York, 6 cks. Read, Holliday & Son
Rotterdam, 8
Rouen, 3 Co-op. W'sale Society, Ld.
Hamburg, 2 cs. 2 brls. 2 pps.
Cottonseed Oil—
New York, 202 brls.
N. Orleans, 1,795
Cream of Tartar—
Bordeaux, 21 cks.
Dyestuffs—
Argols
Leghorn, 3 cks.
Cochineal
Gd. Canary, 69 bgs.
" 4 Kolp, Hollmann & Co.
Gambier
Singapore, 345 bls.
Logwood
St. Lucia, 32 t. Gillespie, Brs. & Co.
Madder
Rotterdam 3 cks.
Myrabolams
Bombay, 2,795 bgs.
Saffron
Burriana, 2 cs.
Shumac
Palermo, 300 bgs
Farina—
Rotterdam, 50 bgs.
Glucose—
New York, 399 brls.
" 100 T. M Duche
St. John's, N.B., 997
Baltimore, 500
Boston, 50
Glue—
New York, 1 cs.
Rouen, 27 cks. Co-op. W'sale Society, Ld.
St. Nazaire, 24 20 cs.
Guano—
Hamburg, 50 bgs.
Lamp Black—
Philadelphia, 283 bgs.
Lead Acetate—
Hamburg, 1 ck.
Limestone—
Antwerp, 1 cs.
Mineral White—
Bordeaux, 50 bgs.
Molasses—
New York, 1 kg. Mrs. R. F. Hobson
N. Orleans, 1,000 brls. T. W. Simmonds & Son
St. Lucia, 200 puns Henckell du Buisson
" 359 E. Grey & Co.
Ochre—
Rouen, 5 cks. R. J. Francis & Co.
" 91 Co-op. W'sale Society, Ld.
Rotterdam, 3
Antwerp, qty.
Paint—
Boston, 1 ck. Pearson, Bennion
" 10 brls.
Paraffin Scale—
New York, 700 brls. Thompson & Bedford
" 315 Anglo-Am. Oil Co.
Philadelphia. 100
Phosphate Rock—
Brunswick, Ga., 345 t.
Potash—
Dunkirk, 20 dms. Bancroft & Co.
Rouen, 57 cks Co-op. W'sale Society, Ld.
Dunkirk, 21 dms.
Potassium Chlorate—
Rouen, 500 cks R. J. Francis & Co.
Pumice Stone—
Leghorn, 10 cs.
Pyrites—
Huelva, 1,354 t. Matheson & Co
Rosin—
Brunswick, Ga., 4,134 brls.
Salt—
Hamburg, 10 bgs.
Saltpetre—
Hamburg, 2 cks.
Soap—
Philadelphia 700 bxs. 94 crts.

Soapstone—
Bordeaux, 400 bgs. Geo. G. Blaiwell, Sons & Co
Starch—
New York, 200 bgs.
Rotterdam, 52 cs.
Antwerp, 768
Stearine—
Antwerp, 47 bgs.
Sulphur—
Catania, 17 brls.
Tallow—
New York, 66 brls. 326 tcs. 1 pk.
Boston, 80 100 hds.
Baltimore, 75 tcs.
Zarate, 270 pps.
Philadelphia, 10
Tartaric Acid—
Rotterdam, 8 cks.
Treacle—
Philadelphia, 52 brls.
Ultramarine—
Rotterdam, 20 cks.
Varnish—
New York, 11 brls. W. A Warren
White Lead—
Rotterdam, 62 sks.
Wood Pulp—
Boston, 711 rolls Thin & Sinclair
New York, 202 bdls. Lever Brs.
Zinc Oxide—
Antwerp, 10 cks. 30 brls.
Zinc White—
Rotterdam, 40 cks.

MANCHESTER.

Week ending January 8th.

Acetic Acid—
Rotterdam, 18 blns.
Alizarine—
Rotterdam, { 6 cks. 12 brls.
Alumina Sulphate—
Rotterdam, 14 cks.
Aniline Colours—
Rouen, 2 cks
Rotterdam, 9 brls.
Aniline Salts—
Rotterdam, 21 cks.
Barytes—
Rotterdam, 100 bgs.
Bone Ash—
Rio Grande Do Sul, 360 t. J. Gordon & Co.
Chemicals *(otherwise undescribed)*
Rouen, 23 cks.
Treport, 5
Cottonseed Oil—
Rotterdam, 125 brls.
Farina—
Hamburg, 750 bgs.
Stettin, 500 Browne, Geveke, & Co.
" 1,100
Glucose—
Treport, 200 bgs.
Hamburg, 20 cks.
Stettin, 182
Glue—
Antwerp, 24 bls.
Rouen, { 62 cks. 100 bgs. 45
Treport. 13
Rotterdam, 340
Stettin, 80
Indigo—
Rotterdam, 7 chts.
Litharge—
Rotterdam, 25 cks.
Lithopone—
Hamburg, 40 cks.
Logwood—
Laguna De Terminos, 500 t. D Midgeley & Sons
Manganese—
Hamburg, 30 cks.
Mineral White—
Bordeaux, 280 bgs. J. & P. Hutchison
Ochre—
Bordeaux, 18 cks. J. & P. Hutchison
Treport, 75
Oxalic Acid—
Stettin, 12 cks.

Paraffin Wax—
New York, 60 bls.
Pitch—
Antwerp, 38 cks.
Potash—
Treport, 9 dms.
Rosin—
Bordeaux, 13 cks. J. & P. Hutchison
Soap—
Rotterdam, 3 cs.
Soda—
Treport, { 40 bgs. 2 cks.
Christiania, 1 W. H. Ingram
Sodium Acetate—
Antwerp, 15 cks.
Sodium Prussiate—
Rotterdam, 19 cks.
Tannic Acid—
Hamburg, 5 cs.
Rotterdam, 2 cks.
Tartaric Acid—
Rotterdam, 32 cks.
Tin Perchloride—
Antwerp, 5 cks.
Ultramarine—
Rotterdam, 5 cks.
Waste Salt—
Hamburg, 370 cks.
White Lead—
Antwerp, 8 cks.
Wood Pulp—
Rotterdam, 800 pks.
Drammen, 115 cs. W. H. Ingram
New York, 413 bdls.
Zinc Ashes—
Antwerp, 15 cks.
Stettin, 57
Zinc Oxide—
Rotterdam, 25 brls.
Antwerp, 40
Zinc White—
Rotterdam, 5 cks.

HULL.

Week ending January 8th.

Acids—
Riga, 1 pk.
Asbestos—
Stockholm, 27 pks. Good, Flodman, & Co.
Antwerp, 4 bls. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 144 cks. Bailey & Leetham, Ld.
Rotterdam, 94 Hutchinson & Son
Antwerp, 36 Wilson, Sons, & Co., Ld.
Camphor—
Hamburg, 2 cks. Wilson, Sons, & Co., Ld.
Carbolic Acid—
Amsterdam, 100 cks. W. & C. L. Ringrose
Castor Oil—
Libau, 83 cs. Wilson, Sons, & Co., Ld.
Chemicals *(otherwise undescribed)*
Bremen, 1 cs. Veltmann & Co.
" 7 bls.
Riga, 539 pks. Wilson, Sons, & Co., Ld.
Antwerp, { 34 10 brls. "
China Clay—
Hamburg, 523 bgs. Bailey & Leetham, Ld.
Cod Oil—
Bergen, 90 brls. Wilson, Sons, & Co., Ld.
Hamburg, 5 "
Colours—
Danzig, 12 cks. Wilson, Sons, & Co., Ld.
Bremen, { 44 125 bgs.
Antwerp, 15 pks. Wilson, Sons, & Co., Ld.
Rotterdam, 4 cks. W. & C. L. Ringrose
Riga, 1,250 cs. Wilson, Sons, & Co., Ld.
Dunkirk, 1 "
Cottonseed Oil—
New York, 375 brls. Wilson, Sons, & Co., Ld.

Dextrine—
Stettin, 50 bgs. Wilson, Sons, & Co., Ld.
Farina—
Stettin, 150 bgs. Wilson, Sons, & Co., Ld.
Glue—
Rouen, 8 cks. Rawson & Robinson
Baltimore, 4 brls.
Infusorial Earth—
Hamburg, 94 bgs. R. Barton
Kaolin—
Rotterdam, 236 bgs. Hutchinson & Son
Lead Acetate—
Hamburg, 1 ck.
Manganese—
Hamburg, 10 cks. Wilson, Sons, & Co., Ld.
Ochre—
Rouen, 22 cks. Rawson & Robinson
Ozokerite—
Stettin, 265 bgs. Wilson,
254 bls. Sons, & Co., Ld.
Phosphate—
Ghent, 160 t. Wilson, Sons, & Co., Ld.
Phosphorus—
New York, 10 cs.
Pitch—
Rotterdam, 65 cks. Hutchinson & Son
Pumice Stone—
Messina, 35 bgs. Wilson, Sons, & Co., Ld.
Rosin—
Brunswick, Ga., 947 brls.
Shumac—
Trieste, 77 bls. Wilson, Sons, & Co., Ld.
Palermo, 75 "
" 1,050 bgs.
Soda—
Ghent, 150 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 5 cks. "
Starch—
Bremen, 1,056 cs. Veltmann & Co.
Amsterdam, 84 W. & C. L. Ringrose
Ghent, 100 Wilson, Sons, & Co., Ld.
Tallow—
Dunkirk, 42 cks. Wilson, Sons, & Co., Ld.
Tar—
Stockholm, 25 brls. Wilson, Sons, & Co., Ld.
Dunkirk, 31 "
Tar Salts—
Hamburg, 5 cks. Wilson, Sons, & Co., Ld.
Tartaric Acid—
Rotterdam, 4 cks. Hutchinson & Son
Treacle—
New York, 375 brls. Wilson, Sons, & Co., Ld.
Turpentine—
Brunswick, Ga., 2,500 brls.
Ultramarine—
Rotterdam, 2 cks. Hutchinson & Son
Valonia—
Trieste, 239 bgs. Wilson, Sons, & Co., Ld.
Waste Salt—
Hamburg, 30 t. Wilson, Sons, & Co., Ld.
White Lead—
Rotterdam, 10 cks. W. & C. L. Ringrose
Antwerp, 25 Bailey & Leetham, Ld.
Amsterdam, 48 W. & C. L. Ringrose
Rotterdam, 79 Hutchinson & Son
Wood Pulp—
Stettin, 1,000 bls. Wilson,
560 pks. Sons, & Co., Ld.
Christiania, 1,245 bls. "
Gothenburg, 320 "
" 25 bdls. "
Drontheim, 304 bls. "
Hango, 67
Zinc White—
Rotterdam, 20 cks. Hutchinson & Son

GLASGOW.

Week ending January 11th.

Acids—
Ghent, 9 cks. 16 carboys
Alumina Sulphate—
Rotterdam, 126 bgs. J. Rankine & Son
Ammonium Chloride—
Rotterdam, 9 cks.
Arachide Oil—
Rotterdam, 21 cks. J. Rankine & Son
Asbestos—
St. John's, N.B. 1,344 bgs. Scottish Asbestos Co., Ld.
Barytes—
Rotterdam, 66 cks.
" 142 pks. J. Rankine & Son
Castor Oil—
Antwerp, 57 cks.
Colours—
Rotterdam, 11 ks 1 cs. 14 pks.
Antwerp, 8 cks.
Rouen, 1
Dyestuffs—
Alizarine
Rotterdam, 20 cks.
Aniline Colours
Rotterdam, 11 cks.
Amsterdam, 4 cks. J. Rankine & Son
Annatto
Bordeaux, 2 cks.
Argols
Bordeaux, 55 bgs.
Extracts
Antwerp, 11 cks.
Indigo
Rotterdam, 1 ck.
Logwood
Black River, 543 t. 18 c. Mucklow & Co.
Jamaica, 543 18 "
Farina—
Delfszyhl, 1,330 bgs. J. Rankine & Son
French Chalk—
Fiume, 660 bgs.
Glue—
Rouen, 58 pks.
Fiume, 180 bgs.
Hamburg, 160
Antwerp, 3 cks.
Lead Acetate—
Rotterdam, 18 cks. J. Rankine & Son
Paraffin Wax—
Baltimore, 219 brls.
Phosphate—
Antwerp, 763 bgs.
Potash—
Rotterdam, 64 cks. J. Rankine & Son
Soap—
Rouen, 4 pks.
Trieste, 42 cs.
Starch—
Fiume, 140 bgs.
Rotterdam, 25 cs. J. Rankine & Son
Stearine—
Amsterdam, 62 bgs. J. Rankine & Son
Tartar—
Bordeaux, 3 cks.
Treacle—
New York, 50 brls.
Ultramarine—
Rotterdam, 4 cks. J. Rankine & Son
2 cs.
Varnish—
Antwerp, 2 cks.
White Lead—
Antwerp, 3 cks.
Rotterdam, 74 pks. J. Rankine & Son
Whiting—
Bordeaux, 100 bgs.
Wood Pulp—
Christiania, 1,990 bls. 11 cs.
Hamburg, 530
Zinc Oxide—
New York, 100 brls.
Antwerp, 38
Zinc White—
Rotterdam, 15 cks.

TYNE.

Week ending January 8th.

Alum Earth—
Hamburg, 34 cks. Tyne S. S. Co.
Barytes—
Rotterdam, 64 cks. Tyne S. S. Co.
Antwerp, 230 bgs. "
Castor Oil—
Antwerp, 27 brls. Tyne S. S. Co.
Farina—
Hamburg, 50 bgs. Tyne S. S. Co.
Manure—
Bona, 1,100 t. Langdale's Chemical M. Co.
Pitch—
Antwerp, 9 cks. Tyne S. S. Co.
Rosin—
Wilmington, 4,835 brls.
Saltpetre—
Hamburg, 20 cks. Tyne S. S. Co.
Soap—
Rotterdam, 14 cs. Tyne S. S. Co.
Starch—
Rotterdam, 230 cs. Tyne S. S. Co.
Antwerp, 2 cs. "
Stearine—
Antwerp, 6 bgs. Tyne S. S. Co.
Wood Pulp—
Christiania, 240 bls. P. H. Matthiessen & Co.
45 cs.
Gothenburg, 703 pks.
Zinc Oxide—
Antwerp, 35 brls. Tyne S. S. Co.
Zinc White—
Rotterdam, 3 cks. Tyne S. S. Co.

GOOLE.

Week ending January 5th.

Alizarine—
Rotterdam, 27 cks. 1 cs.
Alkali—
Calais, 3 cks.
Aniline—
Hamburg, 20 cks. 21 cs.
Dyestuffs *(otherwise undescribed)*
Boulogne, 63 cks. 8 cs.
Rotterdam, 159 45
Farina—
Delfszyhl, 630 bgs.
Hamburg, 500
Glue—
Dunkirk, 6 cks.
Lead Acetate—
Hamburg, 15 cks.
Logwood—
Hamburg, 80 t.
Belize, 320
Potash—
Dunkirk, 2 cks. 20 dms.
Calais, 59
Rotterdam, 48
Saltpetre—
Hamburg, 4 cks.
Antwerp, 85 bgs.
Rotterdam, 200
Sodium Nitrate—
Hamburg, 7 cks.
Rotterdam, 55

GRIMSBY.

Week ending January 8th.

Chemicals *(otherwise undescribed)*
Hamburg, 1 ck.
Rotterdam, 20 1 cs.
Dieppe, 1
Colours—
Hamburg, 17 cks. 1 cs. 67 pks.
Rotterdam, 2
Antwerp, 42 29
Farina—
Hamburg, 600 bgs.
Glue—
Antwerp, 2 cks.
Hamburg, 5
Plumbago—
Hamburg, 1 ck.
Soap—
Hamburg, 1 cs.
Antwerp, 2

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 12th.

Acids—
Bombay, 26 cs. £23
E. London, 19 20

Alum Waste—
Calcutta, 41 t. 11 c. £101

Ammonia—
Alexandria, 8 cs. £11
Durban, 4 3 pks. 23
Sydney, 6 18

Ammonia (Liquid)—
Calcutta, 15 dms. 31

Ammonium Carbonate—
Dunedin, 5 c. £7
Paris, 1 t. 10 36
Cologne, 10 18 280

Ammonium Chloride—
Salonica, 2 t. 3 c. £63
Cologne, 22 cks. 108
Campana, 10 16
Bourgas, 1 31

Ammonium Sulphate—
Rotterdam, 50 t. £450
Ostend, 288 15 c. 2,576
Valencia, 60 540
Mauritius, 306 2,482
Havre, 93 720
Hamburg, 50 450
Bremen, 320 9 5,386
Ghent, 50 14 440
Colombo, 10 4 133
Jamaica, 1 10

Arsenic—
Amsterdam, 11 cks. £52
Aden, 2 11
Rio de Janeiro, 1 t. 23
Napier, 50 dms. 47

Bleaching Powder—
Pt. Elizabeth, 2 t. £48

Boracic Acid—
Havre, 15 c. £18

Bromide of Cyanogen—
Fremantle, 1 t. 11 c. £320

Carbolic Acid—
Pt. Elizabeth, 5 t. £50
New York, 9 cs. 70
Charters Towers, 1 ck. 6
Bombay, 12 1 1,200 dms. 345

Caustic Soda—
Sydney, 1 t. 12 c. £32
Townsville, 2 1 16
E. London, 10 10
Rockhampton, 4 5 155
Durban, 10 7

Chemicals *(otherwise undescribed)*
Durban, 8 pks. £26
Genoa, 24 kgs. 133
Colombo, 7 46
Pt. Elizabeth, 4 cs. 7 48
Oporto, 7 17
Calcutta, 10 42
Antwerp, 22 kgs. 58
Demerara, 175 46
Barbadoes, 24 dms. 254 bgs. 263
Jamaica, 10 11
Odessa, 6 34
Toronto, 2 cs. 22
Fremantle, 5 17
Bombay, 12cks. 31 124
Wellington, 149 pks 315
Brisbane, 155 81
Melbourne, 69 279
Adelaide, 9 15
Auckland, 4 208 215
Perth, 137 98
Karachi, 50 9 99
B. Ayres, 16 / 20 kgs. 142
E. London, 107 173
Hamburg, 1 15 116
Dusseldorf, 10 10 137
Amsterdam, 1 10 6 149
Cologne 84 10 256
Rotterdam, 10 9 99
Cape Town, 20 cs. 46

Citric Acid—
Amsterdam, 2 cks. £24
Genoa. 10 c. 60
Copenhagen, 1 t. 111
E. London, 3 cks. 17
Stettin, 4 23
Wellington, 2 11
Durban, 2 12
Seville, 15 85
Karachi, 1 kg. 6

Coal Products—
Alizarine
New York, 49 cks. £519
Aniline
Rio de Janeiro, 1 cs. £18
Calcutta, 1 13
Aniline Oil
Dunkirk, 10 dms. £320
Rotterdam, 2 70
Aniline Salts
Dunkirk, 10 cks. £70
Anthracene
Cologne, 419 cks. £2,866
Dusseldorf, 51 258
Benzol
Calais, 58 cks. £305
Rotterdam, 100 422
Pitch
Alexandria, 450 brls. £132
Dieppe, 150 t. 263
Pt. Elizabeth, 15 11
Baltimore, 520 bgs. 88
Boston, 500 195
Leghorn, 1,611 2,050
Wellington, 8 pks. 5
Dunkirk, 675 850
Prussian Blue
Rotterdam, 6 cks. £23
Tar
Bombay, 30 runlets £51
Alexandria, 10 brls. 11
Sydney, 50 dms. 10
Dusseldorf, 20 24
Wellington, 3 45 13
Durban, 60 9
Stettin, 100 47
Calcutta, 100 47
Karachi, 30 cks. 24
Lyttelton, 20 6

Copper Sulphate—
Paris, 10 t. 4 c. £160
Vigo, 2 10 43
Rio de Janeiro, 6 6
Odessa, 10 170
Wellington, 10 9
Bombay, 16 4 243
Batoum, 45 10 684

Cream of Tartar—
Bombay, 3 cs. £13
Melbourne, 1 t. 85
Wellington, 14 c. 54
Sydney, 1 78

Disinfectants—
Auckland, 2 cs. £10
Barbadoes 3 56 pks. 46
Jamaica, 20 dms. 18
Madras, 7 23
Penang, 5cks. 250 192
Chinde, 17 12
Bombay, 335 280 238
Cape Town, 40 15
Sydney, 6 cs. 16

Dried Blood—
Dunkirk, 100 t. 2 c. £530

Lime—
Pt. Said, 5 t. 10 c. £15
Durban, 5 tks. 11
Jamaica, 19 64

Manure—
Orotava, 11 t. £66
Malaga, 78 1 c. 550
Dunkirk, 140 613
Ghent, 41 1 23
Penang, 3 24
Jersey, 105 858
Genoa, 5 20
Adelaide, 10 52
Demerara, 50 11 425
Balfleur, 134 975
Jamaica, 72 14 677

Mercurial Salts—
Calcutta, 5 c. £60
Bombay, 1 t. 200

Mercuric Perchloride—
Bombay, 6 c. £49

Nitric Acid—
Madras, 10 c. £16

Oxalic Acid—
Bombay, 20 kgs. £35

Phosphate—
Jamaica, 5 t. £14

Potash—
Rouen, 1 t. 2 c. £22
Hamburg, 1 7 27
Wellington, 2 64

Potash Salts—
Auckland, 9 t. 11 c. £791

Potassium Bichromate—
Bombay, 20 kgs. £40
Rio de Janeiro, 11 c. 26
Libau, 8 19

Potassium Chlorate—
Cape Town, 40 kgs. £66
Madras, 31 19
Otago, 5 c. 8

Potassium Chloride—
Mangalore, 29 cks. £54

Potassium Cyanide—
Sydney, 3 t. £314
Melbourne, 1 28 cs. 625
Townsville, 6 4 c. 614
Wellington, 1 110

Salt Cake—
Brussels, 150 t. £263

Saltpetre—
Dunedin, 1 t. £20
Rotterdam, 3 9 c. 81
Brisbane, 2 4 41
Wellington, 10 10
Martinique, 100 9 1,600
Rio de Janeiro, 6 3 124
Amsterdam, 10 13
Oporto, 9 11 175

Sheep Dip—
M. Video, 12 t. 11 c £155
B. Ayres, 39 15 1,200
Jamaica, 5 9
Cape Town, 1 7 35
Delagoa Bay, 3 6
Lyttelton, 13 10 465
E. London, 30 dms. 6

Soda Ash—
Dunedin, 5 t. 4 c. £27
Oamaru, 2 2 42

Soda Crystals—
Delagoa Bay, 2 t. 16 c. £8
Boston, 2 5 36
Cape Town, 3 5 10

Sodium Bicarbonate—
Mauritius, 5 c. £5

Sodium Prussiate—
Boston, 18 t. £650

Sodium Sulphide—
Constantinople, 3 t. 10 c. £30

Sodium Sulphite—
New York, 18 c. £134

Sulphur—
Brisbane, 1 t. £7
B. Ayres, 2 11 c. 32
Durban, 1 16 13

Sulphuric Acid—
Rio de Janeiro, 3 t. £28
Durban, 1 5 c. 10

Tartaric Acid—
Sydney, 2 t. £238
Hong Kong, 2 c. 13
Karachi, 35 cs. 2 232

LIVERPOOL.

Week ending January 12th.

Alum—
Halifax, 3 t. £15
Smyrna, 2 4 c. 2 q. 12
Piræus, 3 19 18
Beyrout, 5 24
Caiffa, 1 5 5
Alexandria, 4 5 21
Santos, 1 19 9
Callao, 3 3 1 15
Dedeagatch, 5 7 24

Ammonium Carbonate—
New York, 1 t. 15 c. £49
Marseilles, 18 25
Barcelona, 1 1 1 q. 28

Ammonium Chloride—
Patras, 4 c. £6
Barcelona, 1 t. 14 52
Varna, 1 3

Ammonium Sulphate—
Gandia, 104 t. £936
Marseilles, 31 5 c. 283
Antwerp, 50 462
Norfolk, 50 10 420
New York, 61 568
Venice, 41 1 329
Leghorn, 10 90
Madeira, 2 18
Gd. Canary, 48 8 474
Valencia, 116 9 2 q. 1,032
Cullera, 175 4 1,610
Las Palmas, 101 954

Arsenic—
San Francisco, 3 t. 1 q. £68

Bleaching Powder—
Alexandria, 20 brls.
Baltimore, 81 cks.
Barcelona, 18
Bombay, 8 cs.
Boston, 804
B. Ayres, 5
Genoa, 90
Ghent, 75
La Pallice, 36
Leghorn, 32
Naples, 29
Newport News, 379
New York, 490
Paris, 29

Boracic Acid—
Hiogo, 2 t. 10 c. £90
Montreal, 2 4 2 q. 56

Borax—
Antwerp, 19 c. 1 q. £1 5
Hiogo, 2 t. 19 30
Rotterdam, 21 3 32 4
Montreal, 4 8 6 6
Bremen, 5 5 7 9
Piræus, 2 2 6
B Ayres, 5 8
Genoa, 4 10 6 3 8

Calcium Chloride—
M. Video, 18 c. £3
Genoa, 1 t. 5 3
Odessa, 15 2 30

Carbolic Acid—
Rotterdam, 5 t. 5 c. £329
Hamburg, 12 5 804
N. Orleans, 11 1 q. 49
New York, 3 15cks. 3 339
Genoa, 19 c. 3 68
Yokohama, 11 6 1 665
Sydney, 10 15 26

Carbon Bisulphide—
Maranham, 6 c. 1 q. £6
Bahia, 4 9

Caustic Liquor—
Rotterdam, 1 t. 1 c. 2 q. £6

Caustic Potash—
Melbourne, 10 c. £15

Caustic Soda—
Alexandria, 200 dms.
Alicante, 50
Aviles, 8
Bahia, 30
Barcelona, 180 & qty.
Bordeaux, 17
Boston, 50
Brantford, 35
Bremen, 5 brls.
Brisbane, 30
Corinto, 22
Corunna, 20 cks.
Fiume, 26
Hamburg, 45
Hiogo, 282
Kingston, 10
London, Ont., 35
Lisbon, 75
Louisville 100
Madrid, 100 25
Mauritius, 10
Melbourne, 242 46 pks.
Mollendo, 8
Monterey, 127
New York, 476 25
Oporto, 18
Paris, 163
Pernambuco, 120
Philadelphia, 200
Piræus, 15
Porto Alegre, 50
Puerto Cabello, 16
San Sebastian, 105
Santos, 20
Seville, 50
Sydney, 35
Toronto, 50
Trieste, 30
Valparaiso, 100
Vigo, 30

Chemicals *(otherwise undescribed)*
Palermo, 10 c. £15
Samsoun, 5 7
Boston, 38 t. 18 2 q. 170
Philadelphia, 12 16 388
Sydney, 10 8

Fiume,	1	19	1	30
Venice,	1	19	1	30
Genoa,	9	10		140
Rotterdam,	8	13	2	120
Trinidad,	2	3	2	11
Madras,	3	14		8
Smyrna,	1			31
Limassol,		4		6
Yokohama,		5		16
Barcelona,	6	6		90
Santander,	5	13	3	80

China Clay—

Barcelona,	14 cs.
Bombay,	225 cks.
Boston,	1,350
Calcutta,	370
Pernambuco,	30
Philadelphia,	299
Portland,	300

Citric Acid—

Piræus,		3 c.	£16

Coal Products—

Aniline Colours

Barbadoes	6 cs.
Shanghai,	15

Aniline Oil

Barcelona,	14 cs.
Bombay,	17 dms.
Iquitos,	4 brls.

Aniline Salts

Bombay,	13 cs.
Smyrna,	15 cks.

Anthracene

Rotterdam,	22 cks.

Pitch

Cette,	123 t.
Rouen,	7 cks.

Tar

Antwerp,	3 brls.
Newport News,	20 pks.
Philadelphia,	64 t. 15 c.
Vancouver,	10 brls.

Copper Sulphate—

Patras,	4 t.	19 c.	2 q.	£83
Vera Cruz,		7		5
Syra,	3	3	3	50
Antwerp,	1	19	3	32
Paris,	5	11	2	90
Venice,	12	1	2	150
Vigo,	14	8		230
Singapore,	1			17
Callao,	1	7	1	21
Catacolo,	5	2		80
Nantes,	26		3	420
Catania,	15	1	2	240
Genoa,	44	8		695
Salonica,		19		15
B. Ayres,	1	9		27
Newcastle,		11	2	10
Rouen,	20	16	3	330
Piræus,	5	15	2	88
Bordeaux,	308	14		4 879
Cette,	465	19	1	7 243
Trieste.	200	6	3	3,114
Leghorn,	80	8	1	1,305
Naples,	44	6	3	698

Copperas –

Calcutta,	29 t.	7 c.	2 q.	£44

Dried Blood—

Gd. Canary,		10 c.	£3

French Chalk—

Copenhagen,	10 bgs.

Guano—

Malaga,	119 t.	12 c.	£818

Iron Oxide—

Rouen,	9 t.	5 c.	£40

Lime—

Maranham,	5 t.	18 c.		£17
Accra,	4	13		27
Rouen,	3	7	3 q.	27

Magnesia—

Genoa,	2 cs.

Magnesium Carbonate –

Rouen,	40 cks.

Magnesium Chloride –

Bombay,	1 t.	15 c.	£10
Geelong,	1	10	6
Barcelona,	13 cs.		
Hobson's Bay,	6 dms.		

Magnesium Sulphate—

Bombay,	50 brls.	
Seville,		25 cks.
Talcahuano,	10	30 kgs.

Manure—

Las Palmas,	49 t.	2 c.	£286
Lisbon,	30		160
Teneriffe,	10	10	63

Muriatic Acid—

Pernambuco,	1 t.	1 c.	£12

Oxalic Acid—

Boston,	6 t.	2 c.	1 q.	£168

Paint—

Alexandria,	187 pks.	72 dms.
Antwerp,	32 kgs.	
Bathurst,	31	1 cs.
Belize,	173	7 cks.
C. C. Castle,		35 pks.
Cape Town,	20	
Ceara,		4
Degama,		24
Lima,		34 cs.
Maranham,		5
Pimental,		34
Pt. Natal,		104
Sierra Leone,		68 dms.
Smyrna,	20	
Tampico,		7
Valparaiso,		92 cks.

Painters' Colours—

Alexandria,	110 pks.		
Bahia,	67 kgs.	2 cks.	3 brls. 13 cs.
Baltimore,	209		
Bombay,	5		
Bonny,			20 dms
B. Ayres,	30		78 cs.
Old Calabar,		155 pks.	
Oporto,		109	
Pascasmayo,	63		
Para,		69	
Prevesa,		8	
St. Thomas,			5 kgs.
Salonica,		2 brls.	
San Juan,		18 pks.	
Tuticorin,	2		

Paraffin Wax—

Alexandria,		4 cs.
Argostoli,	6 bgs.	
Bahia,		10
Constantinople,		10
Genoa,	370	
Jaffa,	10	
Leghorn,	228	
Nantes,		6
Naples,	100	
Odessa,	110	
Patras,	10	
Smyrna,	35	
Tetuan,		4
Vera Cruz	10	

Phosphorus—

Hiogo,	8 t.	2 c.	£1 905
Paranagua,		5	70

Picric Acid—

New York,	18 c.	£95
N. Orleans,	8 t. 4	1 q. 800

Potash Salts—

Guaymas,	6 t.	4 c.	£470

Potassium Bichromate –

Madras,	2 t.			£75
Havana,		7 c		16
Constantinople,	2	3	1 q.	83
Rouen,	5			187

Potassium Chlorate—

Corunna,	1 t.		£30
Copenhagen,	1	15 c.	54
Hiogo,	30	9	3 q. 1,100

Potassium Cyanide—

Melbourne,	2 t.	£140

Potassium Prussiate—

Naples,	2 cks.	£32
Genoa.	18	199

Potassium Sulphate—

M. Video,		13 c.	2 q. £9

Salt—

Antwerp,	90 t.		
Axim,	10		
Baltimore,	234	6 c.	
Black River,	22	6	
Bonny,	20		
Boston,	140		
Brunswick,	750		
B. Ayres,	50		
Calcutta,	8,165		
C. C. Castle,	25		
Carleton,	33		
Conakry,	24	11	
E. London,	13	8	
Egwanga,	4		
Ghent,	110		
Lagos,	100		
N. Orleans,	1,155		
New York,	10		
Old Calabar,	330		
Opobo,	130		
Para.	100		
Pt. Elizabeth,	15	4	
Pt. Natal,	205	18	
Rangoon,	210		
Rio de Janeiro,		50 cs.	
St. John's, N.B.,		25	
St. John's,	173	10 c.	
Salt Pond,	25		
Sandy Point,	15		
Santos,		100 cs.	
Sao Panlo,		50	
Sapeli,	31	5 c.	
Sydney,	370		100 pks.
Trinidad,	55	2	

Salt Cake—

Lisbon,	40 t.		£66

Saltpetre—

Cephalonia,		5 c.	£5

Sheep Dip—

E. London,	6 t.	5 c.		£125
Calcutta,	2	16	1 q.	63
Bahia Blanca,	11	7	2	216
B. Ayres,	89	16	3	1,761

Soap—

Accra,	50 bxs.		
Alexandria,	50		
Banda,	500		
Batavia,	850		
Belize,	550		
Bombay,	985	30 cs.	
Barbadoes,	300		
B. Ayres,		13	
Calcutta,		88	250 bdls.
C. C. Castle,	350		
Cape Town,		37	
Constantinople,		25	
Curacao,	180		
E. London,	74		
Gibraltar,	200		
Greytown,	250		
Guayaquil,	250		
Kingston,	1,900		
Karachi,		15	
Lagos,	150		
Las Palmas,	202		
Malta,		55	
Manaos,	1,300		
Melilla,	101		
New York,		57 pks. 4 cks.	
Oran,	50		
Patras,		32	
Penang,	110		
Pt. Natal,	100		40 dms.
Pt. Said,	80		
Rio de Janeiro,		2 cs.	
St. John's, N'fld.,		1	
Salonica,	100		
Shanghai,	6,250		
Sierra Leone,	100		
Singapore,	200	1	
Sydney,		3,693	
Teneriffe,	250		
Toronto,		1	
Trieste,		2	
Trinidad,	200		
Warri,	200		

Soda Alkali—

Corinto,			24 cks.
Leghorn,		70 brls.	
Para.		30	
Toronto,		40	

Soda Ash—

Amsterdam,			50 cks.
Antwerp,	396 bgs.		
Baltimore,			22
Barcelona,			20
Boston,	40	40 tcs.	224
B. Ayres,		100 brls.	
Calcutta,	200 kgs.		133
Dunedin,		67	69
Geelong,			8
Ghent,	100 bgs.		
Hamburg,	265	10	43
Hiogo,			42
Leghorn,	130		16
Libau,	500		
Melbourne,			67
Naples,	150		25
N. York,	1,690	129 tcs.	158
Oporto,			10
Rio de Janeiro,		40 brls.	130
Rotterdam,	68		25 pks.
Santos,			50 cks.
Smyrna,	200	50	
Talcahuano,			100
Trieste,	100		
Valparaiso,		350	50
Zante,		20	20

Soda Crystals—

Boston,	280 brls.	
B. Ayres,	50	200 cks.
Corfu,	25	
Malta,	100	
New York,	56	

Sodium Bicarbonate—

Amsterdam,	50 kgs.		
Auckland,	74		
Bombay,	112		
Bremen,			17 dms.
Calcutta,	600		
Christiania,	30		
Corunna,		5 brls.	
Dunedin,	250		
Fremantle,	120		
Genoa,			6 cks.
Lyttelton,	30		
Malta,	30		
Marseilles,	160		
Melbourne,	150		
Naples,	105		
Odessa,	485		
Palermo,	15		4
Paris,	55		
Piræus,		50	
Philippines,	20		
Port Limon,	10		
Rangoon,		5	
Salonica,	40		
Seville,	100	20	
Toronto,	50		
Varna,			75 pks.
Wellington,	170		

Sodium Hyposulphite—

Callao,	100 kgs.	
Samsoun,	200	

Sodium Silicate—

Kingston,		6 brls.
Mauritius,		10
Rouen,	15 cks.	

Sodium Sulphate—

Newcastle,	100 kgs.

Starch—

Copenhagen,	2 cks.
Ferrol,	20 bxs.

Sulphur—

B. Ayres,		19 c.		£6
St. John's, N.B.,	40 t.	1		170
Boston,	50 t.	2		313
St. John's,	10	1		43

Sulphuric Acid—

Maranham,	1 t.	2 c.	2 q.	£20
Pernambuco,		4		3

Superphosphates—

Valencia,	100 t.	2 c.	£170
Gd. Canary,	49	5	160
Arucas,	32		64
Alicante,	10		26
San Sebastian,	19	13	45
Cullera,	115	3	259

Tartaric Acid—

Port Limon,		6 c.	2 q.	£31
Accra,		2 cs.		6

Varnish—

Barcelona,	7 cs.	
Leghorn,		4 dms.
Smyrna,	1	
Tocopilla,	1	

White Lead—

Bombay,	51 t.	
Pt. Natal,	6	15 c.
Tuticorin,	12 pks.	

Zinc Chloride—

Bilbao,	1 t.	4 c.	1 q.	£16

Zinc Oxide—

Bombay,	4 t.	1 c.	£54
Victoria,		19	17

MANCHESTER.

Week ending January 12th.

Alum—

Beyrout,	53 cks.	
Tripoli,	15	

Aniline Colours—

Bombay,		1 cs.
France,	1 kg.	
Rotterdam,	1 ck.	

Aniline Oil –

Antwerp,	3 dms.

Bone Waste—

Belgium,	36 bgs.

Carbolic Acid—

France,	1 ck.	174 btls.

Caustic Soda –

Beyrout,	90 dms.

Chemicals *(otherwise undescribed)*

Bombay,	1 kg.

Copper Sulphate—

Cairo,	15 brls.
Rio de Janeiro,	1 cs.

Copperas—

Alexandria,	280 brls.
Beyrout,	50

Gelatine—

Bombay,	1 cs.

Glue—

Belgium,	6 cks.	
Germany,	10	
Holland,		12 pks.
Rotterdam,	25	

Lamp Black—

Beyrout,	7 cs.

Linseed Oil—

Lattakia,	4 brls.

Logwood—
Alexandria. 67 bgs.
Mineral White—
Rio de Janeiro, 12 bgs.
Naphtha—
Paris, 50 cks.
Naphthylamine—
Antwerp, 57 cks.
Paint—
Lattakia, { 18 kgs. 1 ck.
Limassol, 1
Painters' Colours—
Lattakia, 6 kgs. 1 brl.
Paraffin Wax—
Hamburg, 50 cs.
Pitch—
Antwerp, 5 994 c.
Belgium, 3,956
France, 752 t. 16
Potassium Carbonate—
Rio de Janeiro, 3 cks.
Soap—
Rotterdam, 10 cs.
Soda Ash—
Beyrout, 50 brls.
Tallow—
Rotterdam, 32 bgs.
Tar—
France, 30 cks.
Tar Oil—
Belgium, 17 pks.
Toluol—
Hamburg, 22 dms.
Varnish—
Lattakia, 1 cs.

HULL.

Week ending January 8th.

Ammonium Sulphate—
Antwerp, 1,687 bgs.
Ghent, 646
Rouen, 200
Stettin, 500
Bleaching Powder—
Danzig, 16 cks.
Carbolic Acid—
Amsterdam, 282 cks.
Rotterdam, 22
Caustic Soda—
Riga, 475 dms.
Chemicals (*otherwise undescribed*)
Bergen, 1 ck.
Bordeaux, 20 cs.
Christiania, 29 4 dms.
Copenhagen, 11
Constantinople, 58
Dunkirk, 1
Danzig, 52 6 pks.
Hamburg, 13 5
Hango, 1
New York, 10
Odessa, 8
Rotterdam, 1 90 10
Reval, 1 42
Riga. 41 60
Stockholm, 4
Stettin, 3
Coal Products (*otherwise undes.*)—
New York, 350 brls. 1 dm.
Cottonseed Oil—
Antwerp 499 c.
Amsterdam, 1,665
Dunkirk, 201
Hamburg, 765
Konigsberg, 50
Rotterdam 1,142
Dyestuffs (*otherwise undescribed*)
Rotterdam, 6 cks.
Reval, 1 cs.
Riga, 3
Stettin, 60 bgs.
Linseed Oil—
Antwerp, 42 c.
Bordeaux, 104
Christiania, 122
Christiansand, 35
Copenhagen, 35
Christiansund, 36
Ghent, 7
Hamburg, 239
New York, 212
Naphthaline—
Riga, 83 bgs.
Painters' Colours—
Antwerp, 95 cks. 6 cs.
Amsterdam, 17 2
Bergen, 1
Bremen, 3 20 dms.
Christiania, 1
Copenhagen, 3
Constantinople, 2
Drontheim, 3
Ghent 28
Gothenburg, 1 1
Hango, 1
New York, 112
Rotterdam, { 14 7 20 pks. 100 kgs.
Rouen, 3
Riga, 45 cks
Stettin, 40 4
Stavanger, 1
Pitch—
Antwerp, 415 t.
Soap—
Drontheim, 1 cs.
Reval, 6
Starch—
Copenhagen, 150 cs.
Tar—
Amsterdam, 22 cks.
Dunkirk, 30
Hamburg, 10
Rotterdam, 11
Varnish—
Antwerp, 1 dm.
Amsterdam, 1 cs.
Stockholm, 2

GLASGOW.

Week ending January 11th.

Albumen—
U.S.A., £126
Alkali—
Rotterdam, 12 c.
Alum—
Nickerie Surinam, 11 c.
Ammonium Bicarbonate—
Rangoon, £25
Ammonium Carbonate—
Canada, £73
Ammonium Sulphate—
Rotterdam, 10 t. 3 c.
Cullera, 327 11½
Demerara, 435 9¼
Christiania, 3
Nickerie Surinam, 35
Hamburg, £456 10s.
Valencia, 414 16½
Asbestos—
Canada. £38
Hong Kong, 298
Boracic Acid—
Hiogo, £200
Carbolic Acid—
Hong Kong, £56 10s.
Rotterdam, £517
Caustic Soda—
Batavia, 11 t. 15⅜ c.
Chemicals (*otherwise undescribed*)
Canada, £35
Coal Products—
Benzine
France, £111 16s.
Creosote Oil
Hamburg £3
France £1,627 15s.
Naphtha
Rouen, £ 80
Naphthaline
Duisberg, 150 t. 4 c.
Pitch
Dieppe, 517 t.
Caen, 500
France £553 15s.
Tar
U.S.A., £93
Rangoon, 31
Nickerie Surinam, 10 c.
Tar Oil
Dieppe, 6 t. 4 c
Coal Products (*otherwise undes.*)—
Amsterdam, £82
Cutch—
Rotterdam 1 t.
Dyestuffs (*otherwise undescribed*)
U.S.A., £23
Extracts—
Victoria, £31
Farina—
U.S.A., 5 t.
Guano—
Hong Kong, 41 t. 4½ c.
Iodine—
Rotterdam, £250
Lead Nitrate—
Canada, 5 t. 1 c.
Linseed Oil—
Cape Town, £219 13s.
Kingston, £125
Singapore, 3 t. 13 c.
Manganese—
Rotterdam, 9 t. 16 c.
Manure—
Sourabaya, 8 t. 1 c.
Demerara, 10 3½
Paint—
Hiogo, £26
Nagasaki, 58
Painters' Colours—
Hiogo, £22 10s.
Mossel Bay, qty.
Singapore, "
U.S.A., £44
Antigua, "
Calcutta, 830
B. Ayres, 51
Hamilton, 140
Rangoon, "
Nickerie Surinam, 2 t. 5 c.
Amsterdam, £4
Paraffin Wax—
Bordeaux, £204
Marseilles, 28
Pt. Elizabeth, 83
Barcelona, 730
Valencia, 30
Christiania, 20
Potash Salts—
Mexico City, £677
Potassium Bichromate—
Canada, £235
Hiogo, 576
Yokohama, 198
Barcelona, 399
Rouen, 95
Amsterdam, 183
Rotterdam, 12 t. 2 c.
Potassium Chloride—
Bordeaux, 20 t.
Potassium Cyanide—
Singapore, £96
Soap—
Penang, 2 t. 4½ c.
Trinidad, 1 7
Soda—
Nickerie Surinam, 8 c.
Sodium Bichromate—
Barcelona, 5 t. 5¼ c.
Rouen, 7 13
Sulphur—
Nickerie Surinam, 2 t. 4 c.
Sulphuric Acid—
Nickerie Surinam, 2 t. 10 c.
Rangoon, £79
Superphosphates—
Demerara, 14 t
Tallow—
Rotterdam, 52 t.
Treacle—
Bergen, 10 t. 10 c.
Christiania, 10 6
Varnish—
Santos, £40
Zinc Ashes—
Rotterdam, £210
Zinc Sulphate—
Canada, £20

TYNE.

Week ending January 8th.

Alkali—
Rotterdam, 4 t. 14 c.
Alumina Sulphate—
Rouen, 5 t. 2 c.
Anthracene—
Rotterdam, 38 t. 2 c.
Antimony—
Antwerp, 2 t.
Hamburg, 1
Barium Binoxide—
Dunkirk, 5 t. 8 c.
Rouen, 34 6
Barium Carbonate—
Dunkirk, 5 t.
Barytes—
Antwerp, 19 c.
Bleaching Powder—
Antwerp, 4 t. 19 c.
Rotterdam, 22
Christiania, 6 7
Caustic Soda—
Antwerp, 35 t. 9 c.
Genoa, 37 3
Rotterdam, 3
Christiania, 1
Reval, 103 16
Creosote Oil—
Rouen, 2 t. 5 c.
Magnesia—
Hamburg, 10 c.
Rouen, 12
Manganese—
Dunkirk, 8 c.
Manure—
Jersey, 94 t.
Ochre—
Rotterdam, 5 t.
Paint—
Havre, 1 t. 5 c.
Antwerp, 1 10
Bergen, 9
Plumbago—
Aarhuus, 4 c.
Soap—
Hamburg, 2 c.
Soda—
Antwerp, 6 t. 7 c.
Smyrna, 24 7
Nakskov, 11 16
Aarhuus, 9
Christiania, 2 18
Soda Ash—
Bergen, 6 t.
Sodium Sulphate—
Genoa, 5 t. 13 c.
Antwerp, 50 2
Sulphur—
Christiania, 10 t.
Reval, 25
Tallow—
Genoa, 11 t.

GOOLE.

Week ending January 5th.

Alkali—
Antwerp, 1 ck.
Benzol—
Boulogne, 29 cks.
Rotterdam, 47
Chemicals (*otherwise undescribed*)
Boulogne, 1 cs.
Hamburg, 26 cks.
Rotterdam, 2
Coal Products (*otherwise undes.*)—
Boulogne, 2 pks
Ghent, 2 cks. 1 dm.
Hamburg, 1 1 cs.
Rotterdam, 143
Dyestuffs (*otherwise undescribed*)
Hamburg, 1 ck.
Manure—
Antwerp, 500 bgs.
Ghent, 200
Pitch—
Antwerp, 517 t.
Dunkirk, 515
Salt Cake—
Ghent, 150 t.
Soap—
Amsterdam, 1 ck. 1 cs.
Antwerp, 1

GRIMSBY.

Week ending January 8th.

Alkali—
Port au Prince, 350 dms.
Caoutchouc—
Malmo, 2 cs.
Chemicals (*otherwise undescribed*)
Dieppe, 2 cks.
Rotterdam, 24 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 3 kgs. 80 brls.
Colours—
Antwerp, 1 cs. 1 pk.
Dieppe, 5 kgs. 1 10 brls.
Hamburg, 1
Port au Prince, 6 cks.
Rotterdam, 1

PRICES CURRENT. WEDNESDAY, JANUARY 19TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	0	11
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	21	5	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	2	6
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	33/-	&	31/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	10	0	0
„ „ (grey) Hull	„	9	18	9
Aniline Oil (pure)	per lb.	0	0	7
Aniline Salt „	„	0	0	6½
Antimony	per ton	30	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	6	0	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	3½
„ 50/90 „	„	0	1	5
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7¼
„ (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8½
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	2	18	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	0	0
„ Sulphate	„	17	0	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	15	0
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	9
„ „ Miscible, 60° O.P	„	0	3	8
Oils:—				
Cotton-seed	per ton	15	5	0
Linseed	„	16	10	0
Stearine	per ton	22	0	0
Phosphorus (yellow)	per lb.	0	2	0
„ (red)	„	0	2	9
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	4¼
„ Carbonate, 90% (ex ship)	per ton	16	5	0
„ Chlorate	per lb.	0	0	3⅝
„ Cyanide, 98%	„	0	1	2
„ Hydrate (Caustic Potash) 90 %	per ton	23	10	0
„ „ (Caustic Potash) 75/80 %	„	19	10	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2¼
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.b. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.b. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.b. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.b. w'ks.)	3	17	0
„ „ (Soda Crystals)	„ „ (f.o.b. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4¼
„ Borate (Borax)	net, per ton.	13	5	0
„ Bichromate	„ per lb.	0	0	3⅝
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton (10 ton lots)	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ (10 ton lots)	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ (10 ton lots)	7	2	6
„ „ (60 % Caustic Soda)	„ „ „ (10 ton lots)	6	2	6
„ „ (pure liquor 90° Tw.)	„ „ „ (10 ton lots)	3	12	6
„ „ 77/78 % powdered (99 % hydrate)	„	12	5	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
„ Nitrite, 98 %	per ton	26	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅛
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow (Beef)	„	18	10	0
Tin Crystals	per lb.	0	0	4¾
„ English Ingots	per ton	66	0	0
Zinc (Spelter)	„	18	2	6
„ Chloride (solution, 100° Tw.)	„	5	15	0
„ Sulphate, Crystal	„	5	15	0

THE

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AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

THE PROSPECTS OF SODIUM NITRATE.

DURING the last six months we have had occasion to refer to the actual position of sodium nitrate as a fertilizer, and more particularly as a dividend-earning article of commerce.

In so doing, it may be that we have been prone to take a somewhat gloomy aspect as to the future, and, either by direct statement or innuendo, have implied that the price of nitrate of soda would fall. At all events, we have conveyed the impression that it is not likely to rise, until unrestricted competition has played havoc in the ranks of nitrate producers.

Though this attitude has not been taken up without duly considering the premises which justify its adoption, it has evidently caused many heartburnings in various quarters, and we feel it is desirable to make known, in an unmistakable manner, just what our attitude is. The mere fact of a truth being unpalatable is no just cause for denying, ignoring, and in every way suppressing that truth, any more than there is cause to wash all your dirty linen in public because a few soiled articles have escaped the wash-tub.

In the same way the fact that we have not been lying-prophets in the past, is no ground for assuming that we are wholly antagonistic to nitrate of soda. Truth to tell, we have no reason to be, and it is only because the halcyon past seemed to warrant a stirring notification of the approaching storm that we have thought fit to speak strongly concerning the future of this article.

Now, we are quite prepared to admit that the prospect for Spring business is not wholly depressing, especially when viewed through the medium of present prices, which are on the advance. The statistical position can also be made to promise better things. But the real question is not how things are likely to go just about the present. The essential feature is the probable position in the near future.

The present improvement is no doubt due to the fact that with the collapse of the Combination last October, numbers of struggling *oficinas* were wholly and promptly shut down. The Combination instead of having raised the price on the coast to about 6s. per quintal (8s. 9d. cwt. delivered U.K.), as their calculated restriction of output led them to hope, actually left the price at 4s. 9d., when it dissolved. Subsequently the enforced closing of many *oficinas* effected what the restrictions of the Combine failed to achieve, and in consequence the statistical position looks healthier, and prices have been squeezed up accordingly.

But the moment prices pick up is it likely that the *oficinas*, which are now inoperative, will remain so? Are they not hungering and thirsting for a taste of better prices, and will they abstain from producing nitrate and participating in profits, in order to limit the output and enable the present producers to keep prices at a remunerative level? It is hardly likely.

What is more, the published reports of the various nitrate companies all tell the same tale. Considering the lowness of prices they preferred to stop working entirely, but are still ready to double their former output when prices will permit.

In addition there is the expressed opinion of competent outside critics. It is hardly reassuring to learn that nitrate has been freely offered for Spring delivery over next year (1899), at a considerable reduction on current spot prices. Were the present statistical position sound enough to warrant the roseate prospects which some would have us credit, such a course would scarcely be followed, especially with so few producers at work. Then there is the outlook in the United States, about which country so much has been said as regards increasing demand. Whatever the expectations may have been, the facts (which we have on sound authority) are that the supply is much in excess of the possible demand for the coming season. About 65 per cent. of the nitrate sent to the States is absorbed by powder makers, so that the amount available as a fertilizer cannot be so very great; while during 1897 it is undoubtedly true that ammonia compounds largely superseded nitrate of soda. In the face of the last statement, and the increased production of sulphate from the Semet-Solvay coke oven extensions in Alabama, it is no use looking to America for any relief.

Lastly, the relative costs and conditions of production give sulphate an advantage that must always be reckoned with in appraising the future prospects of nitrate.

Thus it is that we are regretfully compelled to play the part of a Job's comforter. That the future will see better prices, we confidently believe; but we are still unable to accept the soothing reports that the present trifling advances are the immediate forerunners of this happy period.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

THE third meeting of the session (there was no meeting in December) was held in the Society's Rooms, 200, Buchanan-street, Glasgow, on Tuesday, January 25th. The papers arranged for on this occasion all bore on the cyanide process for the extraction of gold, a subject which on several previous occasions had engaged the attention of the Scottish Section, and always with the result of drawing an attendance much larger than the average. The first of the series of three, by Mr. Laurence Pitblado, dealt with the tailings on the Kolar Goldfields, giving their average richness, percentage extraction, and consumption of cyanide. The method of cleaning up the zinc box slimes is an improvement specially thought out and introduced by Mr. Pitblado himself. It consists in roasting the retorted and dried slimes with nitre, dissolving out the copper with dilute sulphuric acid, and fluxing the dried residue—the result being a bullion almost free from zinc, and a relatively small percentage of copper compared with the bullion of the old method. The second paper, by Mr. Charles J. Ellis, was entitled "Notes on the Testing of Gold Ores, &c., in Relation to their Treatment by the Cyanide Process." It dealt with the preliminary examination of the gold ores. These are broadly grouped into two classes—those which offer no special difficulty to direct treatment by the cyanide process as carried out under normal conditions, and those possessing certain characteristics which cause trouble of a more or less serious nature, and which on that account call for special investigation. A general outline was given of the natural course of testing, introducing special remarks on some selected examples of the second named classification of ores. In the third paper, which came from Mr. George T. Beilby (the chairman of the Section), and was entitled "Ten Years' Progress of the Cyanide Process for the Extraction of Gold," the following features were discussed:—Development of the theory of the process; its application, first to tailings, then to ores; modifications of the process, mechanically and chemically, in its two stages (the solution of the gold and its precipitation); costs and economies; and lastly, the spread of the process in Africa, America, New Zealand, Mexico, Australia, and India. The paper further dealt with some indirect results attributable to the process, as, for instance, in the opening out of new careers for skilled chemists, and the giving birth to a new industry—the manufacture of cyanide.

THE LATE PROFESSOR TYNDALL AND THE ROYAL INSTITUTION.

MRS. Louisa C. Tyndall has written the following letter to Sir James Crichton-Brown, the Treasurer of the Royal Institution of Great Britain:—

"January, 1898.

"Dear Sir James,—As an expression of his attachment to the Institution, with which he was so long connected, and of his sympathy with its objects, my dear husband desired me (at such time as should be most convenient to myself) to present in his name to the Royal Institution £1,000. to be disposed of as the Board of managers may see fit for the promotion of science.

"I have now the pleasure of remitting to you this sum.—Yours faithfully, LOUISA C. TYNDALL."

Sir James Crichton-Browne, in acknowledging the communication, says:—

"Dear Mrs. Tyndall,—I have to acknowledge your letter enclosing a crossed cheque of the value of £1,000. This generous donation to the funds of the Royal Institution, given by your late husband's expressed wish, will be notified to the managers and to the members generally at their next meeting, when a formal acknowledgment of their grateful appreciation of it will be communicated to you. Meanwhile, I trust you will allow me to express my own sense of the munificence of the gift, and of the simple and touching terms in which it has been conveyed. The managers would, I am sure, desire to be guided by any wish of yours as to the application of the gift; but, in the absence of any explicit directions, they will, I have no doubt, employ it in the promotion of that original scientific research in which your husband's vivid and penetrating intellect delighted to exercise itself. Revered as your late husband's memory is, and ever must be, in the Royal Institution, this posthumous mark of his solicitude for its welfare will, if possible, deepen the affectionate esteem in which he is held. There is not, I regret to say, in the Royal Institution any worthy presentment of the late Professor Tyndall. You have, I believe, an admirable bust of him by Woolner, and I should be glad to know if you would feel disposed to afford facilities for having a replica of that made for the Royal Institution.

THE RETIREMENT OF DR. CLOWES.

AN interesting little ceremony took place on Friday last at the Nottingham University College, when a number of the past and present chemical students, together with the chemical staff of the college, assembled for the purpose of making a presentation to Dr. F. Clowes. Dr. Clowes, who has occupied the chair of chemistry at the University College since the opening of the institution 16 years ago, recently resigned the position in order to assume the office of chemical adviser and chief chemist to the London County Council.

The presentation consisted of a handsome silver kettle for the tea-table, and ornamental silver candlesticks, and was made by the Rev. Principal Symes in suitable terms.

Dr. Clowes acknowledged with deep gratitude the handsome presentation, which, valuable in itself, would serve to him as an invaluable memento of kindly feelings entertained towards him by those with whom he had been associated as fellow workers for 16 years. His own chemical department had been more especially dear to him, and his relationship towards staff and students in that department had always been one of personal and individual friendship. In his new sphere he had the direction of a staff of over 40 assistants, most of whom were qualified chemists, and he hoped that he might, therefore, be able to find useful employment for some of those who had received their chemical training in the Nottingham College. The position involved advice and investigation, in connection with chemical problems of the most varied description, but it included the constant examination of the metropolitan gas and water supplies, the provision of the best means for disposal of the London sewage, and the maintenance of the purity of the Thames. For the performance of these duties there were 20 gas-testing stations, two chemical laboratories at the sewage outfalls, and a central laboratory at Charing Cross, in which general chemical analysis and investigation were constantly being carried out. As a result of the past work in this chemical department, the condition of the gas supply to London had been vastly improved, and the Thames had ceased to be a foul, offensive stream within the metropolitan reaches, whilst the use of bad mortar by the jerry-builder, and the introduction of dangerous petroleum, had almost ceased.

CHANGE OF ADDRESS.—Messrs. Huson Bros., analytical and consulting chemists, who have for the past forty years carried on their business at York Buildings, Dale-street, Liverpool, have removed to larger laboratories in Batavia Buildings, Hackins-hey.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Extracting Iron from its Ores. S. Cowper-Coles. 617 January 10.
Waterproof Coating for Walls. E. Toussaint. 664. January 10.
Lessening the Affinity of Electrolytically Produced Chlorine. C. A. Jensen. 678. January 10.
Degumming, etc., Rhea Fibre. J. Longmore. 703. January 10.
Bleaching, etc., Vegetable Waxes and Fats. S. G. Rosenblum and The Commercial Ozone Syndicate, Ltd. 710. January 10.
Purifying and Hardening Animal Fats, etc. S. G. Rosenblum and The Commercial Ozone Syndicate, Ltd. 711. January 10.
Colour Photography Process. R. Haddan. 838. January 11.
Chemically-treated Peat Fibre. C. Geige. 881. January 12.
Explosives. R. Sohlman. 924. January 12.
Electrodes for Secondary Batteries. C. Pollak. 932. January 12.
Separating Water from Sewage Sludge. F. P. Candy. 944. January 13.
Improved Filter Presses. D. Black and J. McLuckie Wright. 964. January 13.
Box or Tin for Storing Calcium Carbide. H. K. Spence, A. and S. M. Beveridge. 1 071. January 14.
Obtaining Metallic Nickel from Nickel Carbonyl. L. Mond. 1,106. January 14.
Supplying Air to Sewage Filters. W. M. Ducat. 1,129. January 14.
Treating Sewage and Obtaining Gas from the same. D. Cameron, F. J. Commin, and A. J. Martin. 1,188. January 15.
Apparatus for the Electro-Decomposition of Water. Sir C. S. Forbes. 1,213. January 15.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Construction of Acid-Proof Jars, Bottles, Reservoirs, Cylinders, and the like, and in their Manufacture. W. P. Thompson, 322, High Holborn, London (communicated by J. Marx, Berleberg, Germany). Eng. Pat. 22,640. October 2, 1897.

The acid-proof material is enclosed in an iron or other suitable jacket, which is large enough to leave an annular space between the two. This is filled in with cement, gypsum, or water glass and asbestos pulp, and allowed to set. A number of funnels are provided for pouring the material into the mould, as it were, and only half of them are charged, so as to ensure all the air being driven out. The construction of various forms of apparatus on these principles is described and illustrated with five figures.

Improvements in Apparatus for the Concentration or Rectification of Sulphuric Acid or other Acids or Liquors. J. E. Campbell, Stretford-road, Manchester. Eng. Pat. 3,592. Feb. 10, 1897.

The apparatus is of the usual stepped type, with the customary disposition of flues. In the division wall between the lower and upper horizontal main flues are vertical shafts, closed by slides, which can be operated by hand from the exterior of the plant. In this way the gases can be allowed to take a short cut, and impinge more directly against the bottoms of the rectifying vessels, one vertical shaft being situated beneath each vessel. Each rectifier sits on a bed of sand in a larger iron vessel of similar shape, which is suspended in the upper flue. It also has a side pipe just above the level of the sand, which connects with a pipe passing through the walls of the furnace, and terminating in a store tank. In the event of breakages, this arrangement ensures all the acid being caught and stored. The rectifiers are provided with hoods, which connect with a main flue, and convey all acid fumes to a condenser. The top of the upper flue is closed with an iron plate, provided with cleaning holes, and having a central opening through which the sand baths pass, being suspended in the flue by a ring-neck or flange, which sits on the covering plate. There are two figures.

Method of Treating Lead Sulphide Ores. S. Ganelin, 493, North Fourth-street, Philadelphia, U.S.A. Eng. Pat. 26,046. November 9, 1897.

Advantage is taken of the fact that if lead sulphide is introduced into a molten bath of zinc chloride, in the absence of water, double decomposition takes place, with the formation of zinc sulphide and lead chloride. The same is also the case with silver. The dry ground ore is simply stirred into the molten bath of zinc chloride (or other halogen salt of cadmium, manganese, aluminium, etc.). The subsequent treatment may be carried out in one of two ways. Metallic zinc may be stirred into the mass, forming metallic lead and silver, with the reformation of zinc chloride. The lead and silver can then be removed in the molten state after they have settled to the bottom of the pot. By the other method, the whole mass is allowed to cool, and leached with water. The silver chloride and excess zinc chloride are removed and separated in the usual way, and the lead chloride in the residue subsequently recovered.

Improved Evaporating Process and Apparatus Applicable for Concentrating, Cooling, and other purposes. J. B. Alliott, Bloomsgrove Works, Nottingham. Eng. Pat. 3,482. February 9, 1897.

The concentration, etc., is conducted under a vacuum, and the chief object is to condense the vapours given off, with water which is free from air, and so will not tend to vitiate the vacuum in the concentrating vessel. An arrangement is therefore described, and illustrated by a diagram, by which the water supplied to the jet-condenser is kept more or less under a vacuum, thus removing all air before it passes to the jet in the condenser.

A Method of and Apparatus for the Continuous Manufacture of Ammonia from Nitrogenous Coke. H. H. Lake, 45, Southampton-buildings, London, W.C. (communicated by C. Pieper, of Berlin). Eng. Pat. 29 455. December 22, 1896.

The disadvantages of the usual system of steaming the coke in the retorts are set forth, the chief drawback being that the prolonged exposure to the heat of the retort, after the primary action of the steam, is detrimental to the products formed by the said action. The coke is, therefore, treated in a special apparatus. Two forms are illustrated, with four figures. The simplest is that in which the coke is raised by a vertical spiral conveyor on to a platform or bridge, where it meets the jet of steam. It then falls by a slope into a catch-box. The coke is removed by a spiral worm as fast as it collects at the bottom of this box, while the gases are exhausted from the upper portion of the box. If necessary, the coke can be exposed to the action of a second jet of steam as it is falling to the bottom of the catch-box.

Improvements in the Manufacture of Soap for Use in Dyeing and Finishing Textile Fabrics and Materials, and for other purposes. J. Stockhausen, 105, Fischelnerstrasse, Crefeld, Germany. Eng. Pat. 24,868. Oct. 27, 1897.

This is an improvement on Patent 2896/96, for making a gelatinous soap from sulphonated oils, fats, sebacic acids, and oleic acids. About 100 parts by weight of sulphonised oil are mixed with 60 parts of 36-37°B. soda lye, all at once, and with vigorous stirring. After standing some days, the clear portion is boiled until it ceases to froth, and it becomes gelatinous when cold. One advantage claimed is that when dyeing with benzidines, etc., either alone or in conjunction with other salts and acids, no soap or sebacic acid is deposited on the fibre.

AN APPEAL DISMISSED.—The case of the Saccharine Corporation, Limited, *v.* the Chemicals and Drug Company, Limited, came before the Court of Appeal recently on the appeal of the plaintiffs (of London and Manchester), from an order of Mr. Justice North, in the Chancery Division, refusing to grant an interim injunction restraining the defendants from the alleged infringement of patent rights for the manufacture of saccharine in this country. The court dismissed the appeal with costs.

INSTITUTE OF CHEMISTRY JANUARY (1898) EXAMINATIONS.—The following are the names of candidates who have passed the *Practical Examination* for the *Associateship*, under regulations in force prior to October 1st, 1893:—William Alfred Caldwell, Glasgow and West of Scotland Technical College; Alfred Campion, jun., Finsbury Technical College, London; George P. Darnall-Smith, B.Sc. (Lond.), University College, London, and under Professor J. Wertheimer, F.I.C., Merchant Venturers' Technical College, Bristol; Albert Edward Thomas, Registered Student under Professor J. Wertheimer at the Merchant Venturers' Technical College, Bristol; Alfred John Turner, Finsbury Technical College, London. *Final Examination.*—General Inorganic Chemistry: Alexander Hugh Dewar, Glasgow and West of Scotland Technical College; The Chemistry of Metals and Alloys: Albert Lucas Entwistle, Owens College, Manchester, and Registered Student under T. J. Hutchinson, Esq., F.I.C.; Organic Chemistry: Bertram William John Warren, Mason College, Birmingham, and Finsbury Technical College, London; The Chemistry of Water, Food, and Drugs: Edwin James Read, B.A. (Cantab), Cambridge University. *Intermediate Examination*:—Norman Parr Booth, Mason College, Birmingham; Charles Adolphus Hackman, King's College, London, and with A. C. Chapman, Esq., F.I.C.; Leonard Myddelton Nash, King's College, London, and with Bertram Blount, Esq., F.I.C.; Roland Cecil Wild, King's College, London, and Registered Student under C. J. Head, Esq., F.I.C.

IMPORTS AND EXPORTS FOR DECEMBER.

THE Board of Trade returns for the last month were not very encouraging. The *imports* of indigo and coal tar dyes were lighter. The *exports* of alkali and salt were low. Chemical manures showed an increase.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE

ARTICLES.		Quantities. 1896.	1897.
Margarine	Cwt.	89,689	83,182
Copper Ore and Regulus	Tons.	13,065	11,592
Pyrites	,,	47,744	54,545
Tin	Cwt.	69,890	53,945
Alkali	,,	25,754	23,265
Brimstone	,,	10,611	59,592
Dyes, Coal Tar	£.	61,995	53,860
Saltpetre	Cwt.	26,276	17,331
Petroleum	Gall.	25,094,833	17,632,250
Turpentine	Cwt.	38,944	50,664
Guano	Tons.	4,186	1,965
Nitrate of Soda	,,	5,288	14,543
Paraffin	,,	85,465	88,591
Rosin	Cwt.	159,091	141,379
Tallow and Stearine	,,	99,217	180,878
Oil Seed Cake	Tons.	30,210	37,866
Wood Pulp	,,	35,573	38,314

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

ARTICLES.		Quantities. 1896.	1897.
Alkali	Cwt.	456,534	331,576
Cement	Tons.	23,813	27,044
Coal and Coke	,,	2,565,193	2,980,092
Copper, all kinds	Cwt.	68,877	93,752
Iron and Steel	Tons.	283,156	282,022
Chemical Manures	,,	23,150	28,926
Oils, seed	,,	4,298	4,978
Salt	,,	61,135	49,601

FATAL EXPLOSION OF CHEMICALS.—A terrible disaster occurred at Seattle, near New York, on Wednesday. Owing to an explosion of some chemicals, a great fire broke out in a large building, part of which was used as business premises and part as tenement buildings. Eleven persons, who were cut off from all means of escape perished, and others were badly injured.

DESTRUCTIVE POWDER WORKS EXPLOSION.—Shortly after the men employed at the powder works of Messrs. F. S. Dickson and Co., situated at Blackbeck, Colton, High Furness, had left work on Wednesday, last week, an explosion occurred in one of the buildings used as a store for drying powder. It contained thirty barrels of powder, each barrel containing 100 pounds. There was no light or fire in the building, and the heat for drying the powder is conveyed through pipes. All the other buildings in the works were more or less damaged, and the scene presented in the morning one of devastation. No cause can at present be assigned for the explosion, as the building in which it occurred had been locked up for the day. Only four men were in the works at the time of the occurrence, and they fortunately escaped injury. Blackbeck is some five miles from the foot of Windermere lake.

CHEMICAL FIRE ENGINES.—Some specimens of a chemical fire engine, which is stated to be extensively used in Canada and the United States, are now being exhibited in operation in this country. The "Rex" engine, as it is called, consists of a strong metal cylinder filled with a solution of bicarbonate of soda in water. When it is required for use a turn of a lever releases a vessel of sulphuric acid, which acting on the soda, produces carbonic acid gas in such volumes as to raise the pressure within the cylinder to over 200 lbs. to the square inch in a very short time. This gas is not only the source of the force that propels the jet, but is also the efficient agent in extinguishing a fire, the water indeed being regarded as merely a vehicle in which to carry the gas. The larger sizes of this machine have duplicate cylinders, so that while one is being discharged the other can be filled with water and supplied with the necessary chemicals, the action thus being rendered continuous. It is claimed that the apparatus is simple, ready for use in a few seconds, and not liable to get out of order, while the fire-extinguishing power of water thus impregnated with carbonic acid is said to be 40 times greater than is possessed by the same quantity of ordinary water.

PRODUCTION OF NEW COLOURS IN 1897.

AS is well-known, the birth of the artificial colouring matter industry took place in England in 1856, when Perkin discovered and manufactured mauveïne. This first technical artificial colour was manufactured for some years, and thus a good start was given to the colour industry in England. However, it has not been kept up.

Almost the whole of the colouring matters on the market to-day are manufactured in Germany. Many are the speculations as to the cause of this migration of an important industry, but to all inquiries there is but one answer, namely, that the German manufacturer has employed highly trained scientific chemists to find out new colours for him, and the English manufacturer has not. The consequence is that the practical man has been left behind by the much despised theoretically trained chemist.

A correspondent of the *Manchester City News*, reviewing the colouring matters which have been placed on the market during the past year, finds there are no fewer than 168 This is the total production for Europe. A few have been produced in America and elsewhere, which would bring up the numbers to nearly 200. The vast bulk of these new colours have been produced in Germany, the exact figures being the following. Production of colours according to country of manufacture:—

Germany	131
England	22
Switzerland	10
France	5
	168

The number of chemical works which have taken part in this production were:—Germany ten, England four, Switzerland one, France three. Even the above figures are misleading if regarded as evidence of the work done by natives of the respective countries. Although twenty-two new colours were produced in England, it is not too much to say that the majority of these were discovered by German chemists; so that the new colours invented by Englishmen may probably be counted on the fingers of one hand.

The four chemical works which produced the twenty-two colours in England are:—

Levinstein Limited, Crumpsall	11
Claus and Rée, Droylsden	5
Clayton Aniline Company, Clayton	3
Read, Holliday, & Sons, Huddersfield	3
Total	22

The colouring matters themselves may be divided into various classes according as we view their various shades or their applications. Of colours for cotton, wool, silk, and mixed fibres we have:

Cotton	83
Wool	66
Silk	4
Mixed fibres	15
Total	168

Thus half of the colours brought out are used for the dyeing and printing of cotton.

As regards the shades of the colouring matters, they range from violet all through the colours of the spectrum, thus:

Violets	14	Reds	23
Blues	43	Browns	26
Greens	10	Greys	3
Yellows	11	Blacks	33
Oranges	5		

The above figures conclusively prove that, as far as can be measured from the production of new colouring matters, Germany has, in this branch of the chemical industry, practically the whole of the world's trade.

GLOSSOP CORPORATION AND ITS SEWAGE WORKS.—The adjourned action of the Mersey and Irwell Joint Committee against the Glossop Corporation came on for hearing before His Honour Judge Waddy at the Glossop County Court last week. Mr. Ellison, on behalf of the Corporation, stated that a scheme had been adopted which was satisfactory to both parties, and the Corporation had entered into a contract for the construction of the remaining part of the sewage works, and had also accepted a tender for the construction of the outfall works. He now applied for the original order made in January, 1894, to be suspended or varied to allow the works to be completed within twelve months from this date. Mr. Wilson, of Preston, on behalf of the Joint Committee, agreed to this course. His Honour granted the application, each party to pay their own costs.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

COKE OVEN ERECTION.

(To the Editor of the Chemical Trade Journal.)

SIR,—In your special issue of the 22nd inst., in which you have published an elaborate description of Collin's latest type of horizontal coke ovens, you refer in the further part of your article to another system by commenting as a high advantage that one of the oven-constructing firms "are prepared to build plants on their system, finding the whole or part of the necessary capital, and to recoup themselves for the outlay by taking only part of the bye-products, the colliery proprietor receiving the remaining part of the bye-products, together with the whole of the profit obtainable from the coke."

Will you kindly publish for the interest of your readers the fact that neither I nor any other retort oven-constructor would refuse the so-called favour of erecting such plant with *own capital*, it being an exceedingly lucrative speculation, resembling the famous "hire and purchase system."

But I must say I rather doubt whether a serious, industrial, business man would be disposed to deal to-day on this basis, which has the disadvantageous feature of the weekly payment settlements of some trades, where the financial facility of slow payments is recouped by excessive over-charges. As a matter of fact, I may mention that in the early days of coke ovens many Westphalian collieries, fearing the success of insufficiently demonstrated experiments, adhered to an agreement to have erected such bye-product coke ovens at the risk and expense of the contractor, but seeing the great wealth which some of these oven constructors have been able to accumulate for themselves by claiming in exchange for their installation the highly remunerative bye-products, as things are to-day no reasonable coalowner or ironmaster would allow the cream to be taken off such a well-paying undertaking unless compelled by actual lack of capital.—Yours, etc.

1, East-parade, Leeds, Jan. 24, 1898. F. J. COLLIN.

UNITED STATES MINERAL PRODUCTION IN 1897.

THE following is an abstract of the annual statistical summary compiled by the *Engineering and Mining Journal*, New York:—

The mineral production of 1897 again establishes a record, but from present indications it will be exceeded during the year which is just opening.

Abrasives. The production of carborundum in 1897 was 621 short tons, of carundum 230 short tons, of emery 1,500 short tons, of garnet 4,000 short tons, of grindstones 37,200 short tons, of tripoli and infusorial earth 2,862 short tons, and of whetstone, etc., $80,220. There was a considerable increase in the production of grindstones, garnet, tripoli, and carborundum; a decrease in the other substances included under this classification

Aluminum.—The production of aluminum in 1897 was 4,000,000 pounds, valued at $1,542,240, against 1,300,000 pounds, valued at $520,000 in 1896. The increase in production was due partly to the reduction in price for the metal, and partly to the development of a greatly increased export trade.

Barytes.—The production was 27,316 short tons, against 21,900 short tons in the previous year. The increase was due partly to the improvement in industrial conditions, and partly to the exclusion of imported mineral by the new tariff law.

Bauxite.—The production increased from 17,096 long tons to 18,000 long tons. In each year the more part of the output was made in Alabama, the remainder coming from Georgia. A noteworthy feature of this industry in 1897 was the beginning of an export trade.

Borax.—The production increased from 15,258,014 pounds to 18,000,000 pounds, derived entirely from California and Nevada. This industry is controlled by the Pacific Coast Borax Company.

Bromine.—The production decreased from 550,285 pounds to 487,149 pounds. These figures include the bromine contained in the crude bromides manufactured. The bromine industry is carried on in Ohio, West Virginia, and Michigan.

Calcium Carbide.—The manufacture of this substance, which was begun in the United States only in 1896, increased from 860 short tons in that year to 1,925 short tons in 1897. The value of the output in the latter year was $134,750. In both years a large part of the output was exported.

Cement.—The production of natural hydraulic cement was 7,721,215 barrels of 300 pounds, a small increase over 1896; the make of Portland cement amounted to 2,100,000 barrels, about twice that of the previous year. The great increase in the latter was due chiefly to the displacement of imported Portland cement.

Chrome Ore.—This article, mined in California, has been unable to stand the competition of foreign ores, chiefly on account of the higher freight charges it has to pay to get to market; the entire manufacturing of bichromate being confined to two establishments, one in Philadelphia and the other in Baltimore. The increasing use of chrome ore in furnace lining promises an increasing market for this material.

Cobalt Oxide is produced in small quantities from material mined as lead ore in Missouri.

Copperas.—This is produced from scale and other waste material at a number of our wire mills and rolling mills.

Copper Sulphate.—This product is made at several of our refining works from copper, in forms that have not been included in the statistics of copper; it is an important article, amounting in 1897 to 46,652,000 lbs. Much of this bluestone is exported to Europe.

Feldspar.—The production was about the same as in the previous year. This mineral is consumed almost entirely by the potters of Trenton, N.J., and East Liverpool, O.

Fluorspar.—The production increased from 6,000 short tons to 9,025 short tons. There were three producers, all of them operating in the district covering Southern Illinois and the opposite side of the river in Kentucky.

Gypsum.—There was a small increase in the production; in 1897 the output was 235,000 short tons ($673,148), which was quarried chiefly in New York, Michigan, Kansas, and Iowa.

Lead.—The production of lead in 1897 was 194,530 short tons, valued at $13,931,348, against 174,792 short tons, valued at $10,381,843, in 1896. Besides this, there was a large amount of lead produced in the United States from foreign ore and bullion, a large part of which was exported after desilverization. The increase, which was proportionately largest in Missouri, is accounted for by the high price of the metal during most of the year. The chief sources of domestic lead supply continue to be the Coeur d'Alene district of Idaho, Leadville, Colo., and the vicinity of Bonne Terre, Mo. The exportation of foreign lead refined in bond during the first 10 months of the year, was 41,910 short tons. The exportation of domestic lead during the same period was 5,637 tons.

Magnesite.—This mineral is mined only in California, where there are large deposits. The production in 1897 was 1,907 short tons, against 2,067 in the previous year.

Manganese Ore.—The production fell off from 162,526 long tons ($339,083) to 158,477 long tons ($337,432). This includes the high grade manganese ore produced in Virginia, Georgia, and Arkansas, together with the manganiferous iron ore of Colorado and Lake Superior, and the franklinite residue of the New Jersey zinc works.

Nickel.—The production was 3,932,245 pounds in 1897, against 3,696,939 pounds in 1896. With the exception of a few thousand pounds, this was derived entirely from Canadian matte. The nickel market was quite devoid of interest in 1897.

Phosphate Rock.—There was an increase of about 10,000 long tons in the production, which was due entirely to the mines of Tennessee. Both South Carolina and Florida showed a falling off, the conditions continuing unfavourable to the industry in those States. The total production in 1897 was 890,000 long tons, valued at $2,694,058.

Petroleum.—The production was 66,000,000 barrels, against 61,396,394 barrels in the previous year. There was an increase in the output of the Pennsylvania, New York, and West Virginia fields, and a larger one in those of Ohio, the yield of which is now upward of 40 per cent of the total.

Platinum.—A small amount of this metal is produced in the refining of certain gold which is obtained in California. We estimate the production in 1897 as 200 ounces, the same amount as in the previous year.

Pyrites.—The production in 1897 was 128,618 long tons, valued at $380,299, against 117,782 long tons, valued at $297,853, in 1896. This was produced chiefly by one mine in Massachusetts and two in Virginia. The increase in production was due to the continued high price of brimstone and the consequent change of many acid makers from brimstone to pyrites as a source of sulphur.

Quicksilver.—The production of quicksilver in 1897 was 26,079 flasks, valued at $991,002, against 29,863 flasks, valued at $1,104,997, in 1896. The falling off was due to the unfavourable results of the exploitation of several mines in California, which were formerly important producers. The production in 1897 was still a good deal more than was required for domestic consumption, but there was a decrease in the exports corresponding more or less to the decrease in production.

Salt.—The production of salt in 1897 was 14,455,788 barrels of 280 pounds, valued at $1,836,883, against 13,354,573 barrels, valued at $1,696,030, in 1896. Upward of 90 per cent. of the production in 1697 was evaporated from brine, there having been a large falling off in the production of rock salt in Kansas. Included in these figures is the salt used in the manufacture of soda ash, in which there was an increase.

Soda.—The production of soda ash, reckoned on a basis of 58 per cent., was 177,000 metric tons, valued at $4,071,000, against 158,975

metric tons, valued at $3,656,425, in 1896. The growth of this industry is highly gratifying in view of its comparatively recent establishment in this country.

Sulphur.—The production in 1897 was 1,690 short tons, valued at $34,645, against 2,800 short tons in 1896, valued at $64,200. Of the production in 1897, 1,000 tons were from Utah and the remainder from Louisiana.

THE CHEMICAL TRADE OF NEW YORK IN 1897.

THE year 1897, like its predecessor, was generally quiet, and it would have been uneventful had not a new tariff Bill been framed. This caused much uneasiness among importers and had the effect of quieting business materially. Prices for the time were unsettled and dealers unwilling to accept contracts for future delivery. On the other hand, a number of importers, anticipating higher duties, made heavy shipments from abroad. When the Bill became law these holders threw their stocks on the market, and in consequence prices fluctuated considerably. As the year closed, however, the market grew steadier.

HEAVY CHEMICALS.

The demand was of a routine character throughout the year, but the consumption has improved, and prices in several cases are better. The United Alkali Company, Limited, which owns nearly all the chemical works in Great Britain, exported a considerable quantity of its product to this country, and the agents here succeeded in maintaining prices pretty well. The operations of our domestic manufacturers have improved during the year. The Mathieson Alkali Company, which uses the Castner-Kellner process for making alkali, at its works in Saltville, Va., has erected a large plant at Niagara Falls, N. Y., and the Michigan Alkali Company, at Wyandotte, Mich., has also added to its facilities for manufacturing bicarbonate and caustic soda. The Solvay Process Company, still the largest American maker of sodium products, and supplied the greater part of the domestic articles. There was a material increase in the imports of heavy chemicals for the ten months ending October, 1897, as compared with the corresponding period in 1896. *Caustic soda* showed an increase of 13,138,980 lbs. The duty on this article was advanced in the new tariff from ½c. per lb. to ⅝c. per lb. The selling price of 60% caustic soda was 2dols. 22½c. to 2dols. 42½c. per 100 lbs. in January and February; 2dols. 10c. to 2dols. 15c March to June inclusive; 2dols. 22½c. to 2dols. 42½c. in July and September, and 2dols. 10c. to 2dols. 20c. in October, November and December. The quotation on 70 to 76 per cent. caustic soda was 2dols. 12½c to 2dols. 22½c. per 100 lbs. in the first two months of the year; 1dol. 90c. to 2dols. in the second quarter; 2dols. to 2dols. 25c. in the third quarter, and 2dols. to 2dols. 15c. in the last quarter of the year.

Domestic 58 per cent. *alkali* sold at 67½c. per 100 lbs. f.o.b. works in January, at 60c. in March, 57½c to 60c in June, 2½c. less in July, 60c. in August, 5c. higher in September, 10c. less in October, 55 to 60c. in November, and 65 to 67½c. in December. These manufacturers endeavoured early in 1897 to form an agreement to maintain prices, but nothing definite has yet been done. Foreign alkali was quoted at 67½ to 70c. per 100 lbs. in January, and when the duty was advanced from a ¼c. to ⅜c. per lb. in the new tariff the selling price of the article rose to 72½c. to 77½c. In September, however, the price receded again to 67½c. to 72½c., and remained so until the close of the year. Comparing these prices with a year ago, we note they are less by about 25 per cent., notwithstanding the increased duty on imported alkali.

Sal. soda, which is used to a great extent by Paris green makers, was quoted at 55c. per 100 lbs. in January for the American. This price did not change until August, when it was advanced to 65c. Foreign sal. soda brought 62½c. to 67½c. per 100 lbs. at the opening of the year, but in March dropped to 60c. to 65c. When the new tariff placed the duty at 1-5c. per lb. the price rose again to 67½c., and when December opened the quotation was 67½c. to 75c. Immediately after the tariff bill was passed, there was a large falling off in imports—over 100,000 lbs. in the month of August.

Bleaching powder was in good demand, owing in no small degree to the yellow fever scare, which necessitated the use of that article as a disinfectant. Our whole consumption is supplied by the foreign manufacturers, as no bleaching powder is made in the United States, excepting the liquid bleach produced by a paper manufacturer in Maine, who uses all he makes. In the discussion of the new tariff bleaching powder was taken from the free list and a duty of ⅛c. per lb. levied, and when the Bill was passed the imports of that article had decreased about 400,000 lbs Nevertheless, the ten months ending October 31st, 1897, showed an increase of 6,215,029 lbs. in imports as compared with 1896. The selling price of prime bleaching powder was fixed at 1dol. 75c. to 1dol. 87c. per 100 lbs at the opening of the year, and remained stationary until July, when it was advanced to 1dol. 80c. to 2dols., owing to the new duty. In August the price was again advanced to 1dol. 90c. to 2dols. 10c., but at the close of the year it receded to 1dol. 85c. to 2dols. The continental brands, those of Germany, France, and Belgium, were quoted at 1dol. 62½c. to 1dol. 75c. per 100 lbs. in January; at 1dol. 57½c. to 1dol. 70c. in March; at 1dol 55c. to 1dol. 75c. in June; at 1dol. 80c. to 2dols. in August, and at the close the quotation is 1dol. 65c. to 1dol. 95c., according to make and quantity.

Chlorate of Potash was in an unsatisfactory condition throughout the year, owing to overproduction and keen competition for American business. The European makers of chlorate by electrolysis have increased the number of their plants, and the new plant located in France has added materially to the production. Prices had to suffer as stocks accumulated. Besides, the levying of a duty of 2½c. per lb. in the new tariff caused foreign makers of chlorate to reduce their prices, instead of advancing them, so as to secure our trade, while sellers here were obliged to give protection in their contracts for delivery over 1897, something they had never before done on this article. In Jan. 7⅞c. per lb. was quoted and ¼c. more was asked in the following month; in March 7⅞c. to 10c. was the price, and in April as high as 11c. was obtained by dealers, but this price broke in May 3½c., owing to keen competition and plentiful supplies. In June the price hovered between 8½c. and 10c, and for a month remained in that position, but in August it advanced ½c. In September 11c. was again quoted, but as the year began to close the price dropped to 9dols. 50c. to 9dols. 75c. In anticipation of the duty imposed by the new tariff importers ordered large quantities of the article from abroad early in the year, which caused prices to fluctuate materially later on. Statistics show that the arrivals at the United States ports during the ten months ending October 31st, 1897, were larger by 1,765,961 lbs. than a year ago.

Acids.—There have been few developments of interest in this market during the year, the only feature being the uncertainty of prices for raw materials. In consequence of this the acid makers were not willing to contract for any long periods without some provision being made in case of an advance in such prices Acetic acid was quoted at 1dol. 35c. to 1dol. 45c. per 100 lbs. in January, advancing to 1dol. 40c to 1dol. 50c. a month later, owing to the higher price of acetate of lime. No further change was noted in the acid until December, when the price for delivery over 1898 was fixed at 1dol. 50c. to 2dols. Muriatic acid, 18°, remained steady at 75c to 85c., until the close of the year, when it advanced to 90c. to 1dol. 50c., according to quantity; 20° sold at 85c. to 95c. until December, when it rose to 95c. to 1dol. 5c; 22° opened at 1dol. 15c. to 1dol. 25c. in January, and advanced to 1dol. 25c. to 1dol. 35c. in December. Nitric acid was also steady in price, being quoted at 3 dols. 50c. to 4dols. per 100 lbs. for 36°, 4 dols. to 4dols. 50c. for 40°, and 4dols. 50c. to 5dols. 50c. for 42°; an advance of 10c. on all degrees was made in December for next year's delivery. Oxalic acid was held firm by the combination, and was quoted at 7dols. 25c. to 7dols 50c per 100 lbs. in January, advancing to 8dols. to 8dols 25c. in April, in anticipation of an increase in the new duty; but in August, when no change took place in the tariff, the price fell to 7dols. to 7dols. 25c. This price remained unchanged until November, when it rose again to 7dols. 25c. to 7dols. 50c. Contracts for delivery over 1898 were taken in December as low as 6 dols. 50c. per 100 lbs. Sulphuric acid did not fluctuate to the extent that had been expected early in the year, when brimstone began to rise in value. In January the acid sold at 85c to 1 dol. per 100 lbs. for 66°, and closed at 90c. to 1dol 50c. in December, when contracts for next year's delivery were taken. On the other hand, we understand that but few manufacturers of sulphuric acid have changed their chambers this year for burning pyrites instead of brimstone, in consequence of the latter's higher valuation. The Nichols Chemical Company uses considerable pyrites for making sulphuric acid, and, we learn, several of the other manufacturers, both here and in the West, are burning equal quantities of brimstone and pyrites in producing the acid. Blue vitriol, owing to the upward tendency of the price of copper, fluctuated from 3dols. 75c. to 4dols. in January to 4dols. to 4dols. 25c. in February and to 4dols. 50c. in April, receding to 3dols. 62½c. to 3dols. 75c. in August. In December the quotation was 3dols. 75c. to 4dols. 25c., principally for delivery over 1898. Considerable of this acid is being shipped to South America for consumption, and the contracts from this source are usually taken early in the year.

Brimstone.—The Societa Anglo-Siciliana, which was formed in 1896, has been very successful in its operations so far, and it has regulated prices to a notable extent in this country. The imports of brimstone from Sicily have increased materially in the ten months ending October 31st, 1897, amounting to 123,446 tons, as compared with 115,436 in the corresponding period in 1896. Much discussion was caused when it was proposed to put a tax of 50c. per ton on sulphur in the new tariff Bill. For good reasons, however, the Senate Committee eventually decided to eliminate this clause and put brimstone again on the free list. It is clearly evident that Sicily supplies nearly all our consumptive demand, as only two or three carloads of sulphur from Japan come to San Francisco each year, and our domestic deposits are not being operated on a large scale. The demand for brimstone is affected more or less by the condition of business generally, and during the last six months of the year, when all industries grew more active, the consump-

tion of that article increased. Best unmixed seconds opened in January at 20dols. to 22dols. per ton for spot and at 19dols. 25c. to 21dols. for shipment; thirds were from 75c. to 1dol. less. In March this price was shaded to 19dols. 75c. to 20dols. 50c. for spot and 19dols. 50c. to 20dols. 50c. for shipment, with thirds still quoted at 75c. to 1dol. less per ton. In April spot best unmixed seconds were selling at 19dols. 25c. to 20dols. 50c. per ton, and shipments were quoted at 19dols to 19dols. 75c., while thirds ranged from 50c. to 1dol. less. May showed a little variation from the prices in previous months, 19dols 50c to 20dols. being quoted for best unmixed seconds on spot and 19dols. to 19dols. 25c. for shipment; thirds were 50c. to 75c. less. In June best unmixed seconds rose again to 20dols. per ton for spot and to 19dols. 50c. for shipments, while thirds were 50c. less. In July an advance of 50c. was made on best unmixed seconds; thirds were from 50c. to 1dol. less. In August 20dols. to 21dols. was quoted for seconds on spot and 20dols. 37½c. to 20dols. 75c. for shipment; thirds 75c. to 1dol. less. In September 50c. more was asked for the best unmixed seconds on spot, but shipments were steady at 20dols. 65c., and thirds from 1dol. to 1dol. 15c. less. The October price was 21dols. to 22dols. 50c. for spot seconds, which is 50c. higher than in January; shipments were quoted at 21dols. 25c. to 22dols., and thirds at 1dol. less. In November 20dols. 50c. to 21dols. was the selling price of best unmixed seconds on spot, and 19dols. 75c. to 20dols 50c. for shipment; thirds, 1dol. less. December opened with the price at 21dols. 50c. for spot seconds and 20dols. 75c. to arrive; thirds, 1dol. less.

Fertilizing Chemicals.—The major portion of this trade is made up of deliveries on season contracts. In some articles there has been an increase in consumption this year over 1896, but the cotton situation, which was so unfavourable during the latter half of the year, materially lessened the demand from Southern consumers of fertilizers. Prices ruled pretty steady throughout the year. Sulphate of ammonia sold at 2dols. 32½c. per 100 lbs. for gas liquor in January; declined to 2dols. 30c. in February; advanced to 2dols. 35c. in April; dropped to 2dols. 20c. in May, and remained at that figure until August, when 2dols. 25c. was the selling price. A scarcity in the supply abroad caused sellers here to ask 2dols. 35c. in November and 2dols. 30c. in December.

The products of the German Kali Works, which are being handled in America by representatives of the foreign producers, did not change in prices during the year. These prices are generally fixed during January, and contracts for the year are made with large consumers between that time and March. The consumption of these articles showed an increase over 1896.

CHEMICAL IMPORTS IN 1897.

Articles.	1896.		1897.	
	Quantity.	Value.	Quantity.	Value.
		dols.		dols.
Bleaching powder (dut.), lbs.	80,123,033	1,168,923	86,338,062	1,165,947
Potash, chlorate (dut.), lbs.	4,125,143	320,865	5,891,104	424,926
Potash, muriate (free), lbs.	59,636,391	944,786	64,906,696	997,773
Potash, nitrate (free), lbs.	17,225,720	429,879	15,524,292	290,115
Potash, other (free), lbs.	21 325,125	542,713	22,666,744	565,507
Soda, ash (dut.), lbs.	144,889,818	1,131,774	125,326,441	935,158
Soda, caustic (dut.), lbs	38,655,328	699,735	51,794,308	889,595
Soda, sal (dut.), lbs.	12,442,989	56,920	14,308,015	61,177
Soda, other than nitrate (dut.), lbs.	4 900,929	87,472	5,304,839	72,706
Total value	....	5,383,072	....	5,202 854

—*Engineering and Mining Journal.*

AMERICAN CHEMICAL TRADE MEMS.—The Dunbar Furnace Co., Dunbar, Pa., is preparing to build an electric power plant at its Semet-Solvay plant of coke ovens to utilise the great amount of gas set at liberty. The electricity is to be sold to manufacturing plants within a radius of ten miles of Dunbar. The original plant is to cost £10,000., and will be increased as the demand for the power increases. At present the gas that will produce the power is entirely wasted and as there are many manufacturing plants and coke works that could use electracity thus produced, it was decided to make the experiment. The Alexandria Fertilizer Company, of Alexandria, Va, is about to erect a factory and laboratory for the manufacture of vitriol and other acids used in the manufacture of fertilizers. The company already has an extensive plant for the manufacture, storage, and shipment of fertilizers. The Atlantic Chemical Company was recently chartered in Norfolk, Va, for the purpose of manufacturing fertilizers and carrying on a literage, wharfage, and general storage business. The capital stock is £20,000., to be increased to £100,000. in shares of £20. each. The principal office will be at Norfolk, Va. The officers are: F. S. Royster, president and treasurer, and C. F. Burroughs, secretary. These, with Charles E. Williams, C. A. Johnson and J. A. Gill, constitute the board of directors.

Legal Intelligence.

COURT OF SESSION.

OUTER HOUSE.

(Before Lord Low.)

WHITE LEAD COMPANY *v.* RHUS AND COMPANY.

JUDGMENT on the evidence which was taken by Lord Low, now on leave of absence through ill-health, and which extended over four days in December last, has now been given, as follows. The pursuers' company was formed in 1889 for the purpose of acquiring the patents for the manufacture of Hannay's or Caledonian white lead, which is sulphate of lead, and they allege has been and is advertised and known as "Ironclad Brand," and in the present action they sue the defenders, who are manufacturers and dealers in paints, colours, and varnishes at Glasgow, London, and elsewhere, for the sum of £308. 15s. 10d., being the price of goods supplied, consisting of said white lead. The defenders admit they purchased and received delivery of the goods, which were marked, invoiced, and warranted by pursuers as "genuine white lead," "best white lead," and "white lead," meaning, as defenders allege, according to the commercial interpretation of the term and the true meaning and import of the contracts, and according to custom and rule of trade, different qualities of "carbonate of lead," suitable for the use of painters, builders, and decorators. The sulphate of lead was distributed by the defenders among their customers as received. It was used by their customers, when defects became manifest, they allege, and complaints were made, of which intimation was at once sent to the White Lead Company. The defenders refuse to pay the sum sued for, and claim damages on the ground that sulphate of lead is not white lead.

Lord Low repels the defences, and decerns against the defenders for the sum sued for. In the opinion annexed to the interlocutor, his Lordship said the article ordered by the defenders was white lead, and the pursuers supplied the only kind of white lead which they manufacture—namely, sulphate of lead. The defenders contend that that is not the article which is known in commerce under the name of white lead, that term being applied only to carbonate of lead. It appears that at one time the only white lead which was made was carbonate of lead, prepared by what was known as the Dutch process. Subsequently other methods of producing carbonate of lead were adopted, and the produce was also known as white lead. Then a method of manufacturing a pigment from sulphate of lead was invented, and the pursuers' company acquired the patent, and have since their incorporation made and sold large quantities of sulphate of lead. Sulphate of lead is a white pigment derived from lead, and which is used in the same way and for the same purpose as carbonate of lead—some people thinking it better and some not so good as carbonate of lead. There are, therefore, a variety of white pigments known to the trade, which are all derived from lead, and to which the general term of white lead is applied. There is, however, a considerable body of evidence to the effect that if white lead is spoken of without any prefix or specification of the particular kind carbonate of lead is understood. I think that the preponderence of the evidence is in favour of the view that the term white lead is now used indiscriminately for either sulphate or carbonate; but the defenders' case would have been stronger if they could have shown that they simply ordered white lead from the pursuers without any description of the kind of white lead which they wanted. But that was not the case, because what they ordered was white lead of the pursuers' brand. The pursuers' trade-mark is an ironclad ship, and they call their pigment the ironclad brand, and it is well known by that name in the trade. Now the dealings between the pursuers and the defenders began by the latter asking for quotations for the ironclad brand of white lead. Quotations were sent by the pursuers, and after some correspondence considerable quantities of white lead were purchased by the defenders. From the printed heading of the letter paper upon which the defenders wrote the pursuers saw that they held themselves out to be dealers in paint. The pursuers therefore were entitled to assume that the defenders were acquainted with the trade and knew what was the character of the article which they ordered. The pursuers have never concealed that their pigment is not carbonate of lead. On the contrary, the chief merits which they claim for their article rest upon the fact that it is not carbonate of lead. This carbonate of lead is highly poisonous, while sulphate of lead is, for practical purposes, non-poisonous. Again, sulphate of lead is said to retain its colour much better than carbonate. The pursuers accordingly in their advertisements have been at pains to emphasise the fact that their pigment is not carbonate of lead. The whole difficulty has arisen from the fact that the defenders commenced business as paint merchants without having anyone in their employment who had had practical experience in the trade. But the defenders alone were to blame for that state of matters, and the pursuers were in no way responsible. The result is that the defenders ordered a particular brand of white lead,

and they were supplied with what they ordered, and there was no misrepresentation or unfair dealing of any kind on the part of the pursuers. I am therefore of opinion that the defenders have failed to establish their defence, and that the pursuers are entitled to decree.

CHANCERY OF LANCASHIRE.

(*Before Vice-Chancellor Hall*).

JACKSON V. LEVINSTEIN LTD.

This was a motion to sequestrate the property of the company, or in the alternative to attach Mr. Ivan Levinstein, the managing director of the company, for alleged breaches of an undertaking given by the defendants, which being embodied in an order of the court, had the force of an injunction. The witnesses for the plaintiff were partly cross-examined on the 20th inst., when the matter was adjourned owing to the illness of a witness. The case was resumed on Wednesday, and William Howarth, an employé of the plaintiffs, was called and proved being at the door of the outlet from the defendants' works and finding colouring matter flowing therefrom into the river Irk, and taking samples of such colouring matter (which were produced), and of the river above and below the defendants' outlet. Thomas Smith, an employé of Messrs. Cawley, who have works close to the defendants, proved seeing Howarth taking the samples on one occasion, and gave evidence as to the state of the river on some occasions

Mr Ivan Levinstein was called, and cross-examined by Mr. Maberly, and his evidence went to show that the alleged colouring matter could not have come from the works of the defendants.

His Honour, in giving judgment, said that he quite acquitted Mr. Ivan Levinstein of any intentional or audacious or contumacious disobedience of the order of the Court, but he was satisfied that the matter complained of had proceeded from the defendants' works and ordered them to pay the costs of the plaintiffs. He was of opinion that the case was not a strong one, and he should not make any order of committal or sequestration.

Trade Notes.

SOCIETY OF CHEMICAL INDUSTRY.—*Manchester Section.*—The fourth meeting of the session will be held on Friday, February 4th, 1898, in the Chemical Theatre of Owens College, at 7 p m, when the following paper will be read by Dr. Grossmann: "The Treatment and Disposal of Town Sewage."

COPPER SULPHATE IN U.S.A.—The production of copper sulphate (known also as blue vitriol or blue stone) in the United States in 1897 was 49,000,000 lbs., against 48,732,840 lbs., in 1896 The greater part of the production of copper sulphate is made by chemical works in the East, but a good deal is turned out as a by-product by various gold and silver refiners.

MESSRS. ROBERTS, EVANS, AND WOODHEAD.—This firm advises us that they are now proprietors of the finest Spanish ochre, which they have been selling for a good many years. They will be pleased to send samples and quote lowest prices for delivery from store or for direct shipment to any port in the United Kingdom, on receipt of inquiry at their offices, African Chambers, Old Hall-street, Liverpool.

OIL MILL FIRE AT LIVERPOOL.—A fire broke out this week at the Albion Oil Mills, Boundary-street, Liverpool. The premises, which are six storeys high, are used partly for the manufacture of oilcake, and partly for the storage of the manufactured article. Word of the outbreak was sent to the Central Fire Station, Hatton Garden, and Deputy Superintendent Thomas, anticipating from the character of the building a serious conflagration, turned out with a large staff of men and two steam fire engines. After four or five hours' hard work, the firemen succeeded in subduing the flames. All the floors of the mill, however, had by this time collapsed. The warehouse portion of the structure suffered less damage than the mill. All the floors remained in position, but here and there the fire had eaten through.

Obituary.—On Saturday last the remains of Mr. Michael Conroy were interred in Wallasey Cemetery, Liverpool. It is seldom so large and representative a gathering has been observable at this cemetery as upon this occasion, but those who have had the pleasure of intimate acquaintance with the deceased gentleman would have been surprised had it been otherwise. He was a great scientific enthusiast, and was for many years the head of the laboratory of the well-known establishment of Messrs. Evans, Sons, & Co, the eminent wholesale druggists, and he also took a great interest in all matters pertaining to his profession; indeed, the scientific world, as regards applied chemistry, has sustained a great loss, as the late Mr. Conroy had attained to a very high distinction. He founded scholarships in connection with St. Francis Xavier's College, and his many desires to further the interests of young students will be a lasting monument to his memory; withal he was one of the most modest and retiring of men, but full of life and energy, and it is a cause of much regret that a man gifted as he was should be cut off at the early age of 53.

BEETROOT GROWING IN ITALY.—Great efforts are being made in Italy to introduce the cultivation of beetroot upon a large scale, and along with it to establish a national sugar industry. Extensive experiments have been made in a wide region around Ravenna to test the suitability of the soil and the circumstances of the province generally for the purposes of the sugar industry, and these have given such excellent results that throughout Emilia there is a combined movement of agriculturist proprietors and scientists to further the new culture which farmers are everywhere adopting. Steps are also being organised in the Legislature to secure such fiscal conditions as between home and foreign made sugar as will secure a reasonable prospect for the new industry.

ELECTRICAL INSTALLATION RULES.—The new edition for 1898 of the Electrical Installation Rules of the Liverpool and London and Globe Insurance Company forms the third year's issue of this copyright compilation, displacing their former rules dating from 1888 or earlier. The value of this periodical re-issue is shown in the present edition by the inclusion of several added rules this year. For instance, the growth of the adoption of "free wiring" in various districts has necessitated rules specially dealing with the lead-covered twin wires used in this class of work, and the extension of the use of electricity for tramway work has led to the prohibition of the use of trolley wires, or of dynamos feeding trolley wires, as a direct source of current for lighting or power upon insured premises other than the power stations, sheds, &c., of the tramway people. Further slight additions deal with precautions desirable in specific risks, such as corn, oil, and textile mills.

THE PREPARATION OF CHROMIUM.—Aschermann in the *Zeitschrift für Elektrichemie* describes a new method for preparing chromium in the electric furnace. A gas-tight steel furnace is used in connection with a movable electrode. A gas-tight fitting graphite crucible is placed in the furnace and in it are placed oxide of chromium, and sulphide of antimony, in the proportion of 10 to 23 Chromium oxide, sulphur and antimony, 10 to 10 to 23 can also be used, but the results are not so favourable. After the furnace is closed gas-tight, a comparatively light current, say of 20 to 25 amperes, is passed through the material to be melted A reaction takes place attended with the development of much heat. The resulting mass consists of a regulus of a chromium-antimony alloy, while the upper part of the crucible has an amorphous mass of antimony oxide, sulphide and traces of chromium oxide, adhering to the walls. Repeated melting of the regulus removes every trace of antimony, although it is much easier to powder and roast this regulus at white heat when the antimony is driven off.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols keep very depressed, nearest values being 1s. 3d. to 1s 4d. for 90's and 1s. 5d. for 50/90's, but they are moving rather better. Carbolic acids firm, and unchanged. Napthas have not called for special mention since last week. Anthracene is said to have been sold well ahead by Tar Products Sales Committee. Pitch is rather firmer at 18s., f.o.b., East Coast.

Sulphate of ammonia is a strong market, even at the advanced prices, which are beginning to harmonize better with makers' ideas. Closing prompt values are:— London outside makes, £10. 5s.; Liverpool, £10. 3s. 9d. to £10. 5s.; Hull, £10. 3s. 9d.; and Leith, £10. 5s.

REPORT ON MANURE MATERIAL.

The continued open weather is bringing out more inquiry for prompt and early delivery, but so far buyers don't seem to be in any hurry. The requirements of the trade are practically covered for mineral phosphates for the coming season. For shipments second half of the year the quotation for 75/80% Florida rock is 6¼d. per unit, in cargoes c i.f. to good United Kingdom ports. South Carolina River Rock is quoted 5½d. per unit, and 58/63% Algerian 5⅛d. per unit. There is nothing to report in River Plate bones. Fine East Indian bone meal has been sold at £4. 7s. 6d. per ton, ex quay Liverpool. For shipment, fair average quality Bombay meal may be had at £4. 5s. per ton. Nitrate of soda is a shade firmer, but quotations remain 7s. 6d. per cwt. for good up to 7s. 7½d. per cwt. for fine quality, on spot.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the works are, on the whole, fairly busy with orders, but business on the spot is somewhat quiet, and prices are irregular. Bleaching powder still offers at from £5 to £5. 2s. 6d f.o.r. makers' works for home trade contracts over the year, and £5 15s. to £6. f.o.b. Liverpool for export. Ammonia alkali is steady at £4. to £4. 2s. 6d., bags, f.o.r. Soda crystals and bicarbonate unchanged. In caustic soda the market is steadier, most of the large requirements for the year being covered, but there is no improvement in spot prices, which are, as for some time past f o.b. Liverpool 77%, £8. 5s.; 74%,

£8.; 70%, £7. 2s. 6d.; 60%, £6. 2s. 6d. 10 ton lots. In chlorate of potash and soda competition is still keen, and the tendency is to lower prices. Sulphur, £4. 10s., f.o.r. Sulphate of copper prompt to spring delivery, £16. 17s. 6d. to £17s. 5s. f.o.b. with fair inquiry. White arsenic steady at £21. per ton for prompt and early delivery. Brown acetate of lime maintained at £5. 12s. 6d. to £5. 15s. c.i.f. Acetic acid still offers at former rates. Acetates, generally, are dull. Sulphocyanides are a fraction lower. Prussiate of potash is steady at 6¾d., and cyanide 98% 1s. 2d. per lb. Borax is a turn easier, and crystals are quoted £13. Bichromates are offered at slightly lower prices. Aniline oil and salt are freely offered, and owing to competition prices are ruling low. The general tendency of values all round is an indication of much needed improvement in demand.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron quiet: Scotch warrants closed at 46s.; Middlesbro', 40s. 10½d. cash; and hematite, 49s. Copper quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £48. 17s. 6d. to £49. 2s. 6d. cash, and £49. 3s. 9d. to £49. 8s. 9d. three months. Tin easy: Straits closed at £63. 3s. 9d. to £63. 13s. cash, and £63. 16s. 3d. to £64. 6s. 3d. three months; Australian, £63. 17s. 6d.; English ingots, £66. Lead dull: Spanish, £12. 8s. 9d.; English, £12. 12s. 6d.; Silesian spelter, ordinary, £17. 17s. 6d. Nickel, 1s. 2½d. Antimony, £30 5s. Quicksilver: First hands, £7.; second hands, £6. 19s. *Copper shares* quiet: Cape, 4$\frac{15}{16}$ to 5$\frac{1}{16}$; Copiapo, 2⅜ to 2½; Libiola, 2⅞ to 3⅛; Mason and Barry, 3¼ to 3½; Rio Tinto, 27½ to 27⅝; Tharsis, 7¼ to 7½.

GLASGOW, WEDNESDAY.—Market easy, and a good business. Scotch done at 46s. 0½d. to 46s. cash, and 46s. 3d. to 46s. 2½d. one month; buyers, 46s. cash; sellers, 46s. 0½d. cash. Cleveland, buyers, 40s. 10½d. cash, sellers, 40s. 11d. Cumberland hematite done at 49s. 0½d. to 49s. cash; also at 49s. 3½d. to 49s. 2½d. one month; buyers, 49s. cash; sellers, 49s. 0½d.. Middlesbrough hematite, buyers, 49s. 9d. cash; sellers, 50s. 6d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is firm but quiet, both on spot and for forward. Olive is at a standstill owing to short supplies. The tendency, however, is to rise in price, the market being very firm both here and abroad. Linseed is firm at 16s. 6d. to 17s. per cwt. for Liverpool makes in export casks. Cottonseed is rather quiet as regards tone, but quotations still range from 14s. 9d. to 15s 6d. per cwt. for Liverpool refined. Castor oil is steady, both good seconds Calcutta and first pressure French being in fairly good demand at 3$\frac{5}{16}$d. per lb. Tallow is firm with a fair business doing at 21s. to 21s. 3d. for Souths. Resin is in moderate demand at full prices for all grades. Spirits of turpentine firm at 24s. 9d. cwt. on spot. Petroleum quiet, 4⅝d. for Russian and American 5d. to 6¼d. per gallon.

CAKES.—American linseeds are 2s. 6d. easier, but with a fair amount of inquiry; the market closes steady at £6. 15s. to £7. 2s 6d. Liverpool makes remain steady at previous rates, viz., £8. 5s. to £8. 10s. per ton, according to brand, at which there has been a very fair demand. American decorticated cottonseed are in rather better request, and the recently improved quotation for good to choice brands is steadily maintained at £5. 7s. 6d. to £5. 17s. 6d., as in quality; but Liverpool makes moved off quietly into consumption at £6. 5s. to £6. 10s. per ton. Liverpool undecorticated makes are selling to a very fair extent at £3. 18s. 9d. to £4 10s., according to brand; and Egyptian on the spot have also been in fair request at £3. 17s. 6d. per ton, and the market rules firm thereat.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12., best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 90s., seconds 50s., and common 18s.; Irish, Devonshire, 40s. to 45s; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The feeling on the market is more buoyant, and linseed oil is firmer in sympathy with linseed. Cotton oil, however, is easier. Amongst the imports from the United States here during last year the following are noticed:—Chemicals, 8,517 packages; dyestuffs, 1,018 packages; oil (unenumerated—probably cotton oil), 26,984 barrels; oil (lubricating) 61,000 gallons; ditto, 1,065 barrels; oleo margarine, 108 packages; painters' colours, 1,563 packages; linseed, 19,198 qrs.; tallow, 145 packages; petroleum, 1,276,000 gallons; varnish, 426 packages; vaseline, 51 packages. Linseed oil firm, spot, 14s. 10½d. sellers, whereat buyers for the month; forward Feb-April buyers, 15s 3d.; May-Aug., 15s. 6d. asked. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton oil, dull spot naked sellers, spot, 12s. 7½d.; Feb.-April, 12s. 10½d. sellers; May-Aug., 13s. 3d. naked. Filtered refined from £1. to £1. 5s. per ton extra; crude spot, 11s. 4½d; barrels £1 10s, and ordinary casks £1. per ton extra. Danish butter, 110s. to 116s.; Colonial, 90s. to 98s.; Canadian, 86s. to 90s.; Dutch, 100s. to 108s.; Irish, 80s. to 86s.; pail lard, 28s. to 30s. per cwt. Olive oil scarce and unchanged. Olive oil soap (Italian) from £16. per ton. Castor oil may be described as easier but not cheaper. Firsts, in barrels, 31s 6d. per cwt.; in cases, 3$\frac{13}{16}$d. per lb.; seconds, 30s. 6d.; in cases, 3$\frac{9}{16}$d. per lb. Resins from 4s. 10½d. on the spot to 7s. 6d.; cod oil, £15. 10s. to £18. per ton. Oleines unchanged. Brown grease from £7. per ton. Arachide nut oil, £28. per ton.

CAKES.—Linseed cakes steady, 95% pure, £8. to £8. 2s. 6d.; Russians, £7. 7s. 6d. to £7. 12s. 6d.; Polish, £7. 12s. 6d. to £7. 15s. Oil cakes (linseed) £6. 17s. 6d. to £7. Cotton cakes firm, best makes £4. 1s. 3d. to £4. 2s. 6d.; seconds £3. 18s 9d. to £4. Rape cakes, Black Sea, £4.

PAINTS.—Makers continue steadily employed, without much excitement; some firms, however, have improved their last dividend upon last year's working. Prices are unchanged. Ordinary colours in oil, from £10. Dry mineral colours from £3. 10s. to £8. Ready mixed paints £24. Black varnish from £5.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The combined makers (in Scotland), of bichromate of potash and bichromate of soda have just felt compelled to announce a further reduction of prices. It is still the foreign rivalry which is forcing them farther and farther away from the high figures lately ruling. Home sales of potash are now done for 3¾d. per lb. and soda 3d. Not since 1892 have prices been so low. Sulphate of ammonia hitherto has remained faithful to its steady upward progress. For prompt Leith £10. 1s. 3d. is readily procurable to-day, and in at least one case £10. 2s. 6d. has been paid. The impression is now general that the articte is really gaining in favour amongst consumers, and that consumption is taxing production pretty fully. In general chemicals the heavy lines are becoming rather less languid, inquiries about spring shipments making some little stir. The advance in sulphate of copper has continued, and sulphur is still scarce. Oils and paraffins all as before.

Chief prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5 to £5. 10s. nett, Tyne; alum in lump, £4. 17s. 6d. to £5. 7s. 6d. nett, Glasgow; caustic soda, white, 74° £8. os. od., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. nett, for Scotch and English deliveries (for export, 2¾d. nett, f.o.b Glasgow); chlorate of potash, 3⅝d. less 5%, any port: nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £10. 2s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £33. and £31. nett any port; sulphate of copper, £17. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. os., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 14,098 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals still continue dull, though with the approach of spring a better trade is hopefully anticipated. Soda crystals, £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77%, £8 15s. to £9.; 70%, £7. 10s. per ton. Sulphur, £5. per ton, and scarce.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals,

casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is quoted at 8s. 9d. to 9s. per ton, f.o.b. Tees.

COALS.—Market is steady for both gas and best steam qualities, and there is a good demand for coals generally for export. Coke is steady, and with the expectation of a better demand for local consumption price is firmer. Best Northumbrian steam, 8s. 6d. to 8s 9d. per ton; second qualities, 7s. 6d. to 7s. 9d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 8s. 6d. to 8s. 9d. per ton; bunker coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; coke, 18s. to 21s. 6d. per ton.

New Companies.

Irish Proprietary Oil Fields of Gaspe, Canada, Ltd.—Capital £100,000. in £1. shares. This company has been formed to adopt an agreement with the London and Dublin Finance Corporation, Ltd., and to carry on in Canada or elsewhere the business of searching, mining, and boring for, refining, distributing, and dealing in petroleum, rock oil, coal oil, and hydro-carbons. The subscribers to the memorandum of association are:—A. J. L. Kinsley, 59, Bemerton-street, Barnsbury, clerk; G. B Jeffery, 4, Waverley Place, St. John's Wood, journalist; A. F. Walker, Milton-road, Herne Hill, S.E., clerk; T. C. Walker, Milton-road, Herne Hill, S.E., clerk; F. G. Preston, 513, Harrow-road, Queen's Park, W., engineer; G. W. Bowling, 20, Dagmar-road, S. Hackney, clerk; H. F. Butler, 63, Willis-road, N.W., engineer.

London Butchers' Hide & Skin Co., Ltd.—Capital £50,000. in £1. shares. This company has been formed to adopt an agreement with a company of the same name and F. B. W. Cook, its liquidator, and to carry on the business of hide, skin, fat, tallow, bone and wool brokers, tanners, leather merchants, tallow chandlers, fat melters, etc. The subscribers to the memorandum of association are:—W. Coggan, Clarendon House, Herne Hill, butcher; G. H. Cleare, 334, Brixton Hill, S.W., butcher; B. Candy, 133, High-street, Notting Hill, W., butcher; G. W. Gransham, 14, Amhurst Park, N., butcher; W. Reid, 160, Central Meat Market, E.C., butcher; F. Chalk, Aberdeen House, Forest Hill, butcher; T. Oates, High-street, Wimbledon, butcher. Registered office, 43, 44, & 45, Hide and Skin Market, Bermondsey, S.E.

Santa Fiora Mercury Mines, Ltd.—Capital £120,000. in £1. shares. This company has been formed to acquire, own, and work certain mercury mines in Santa Fiora, in Italy. The subscribers to the memorandum of association are:—J. H. Ledbrook, 32, Tollington Place, N., clerk; R. O. Mackenzie, Chudleigh, Merstham, Surrey, solicitor; W. H. J. Mole, 112, Kirkwood-road, Peckham, S.E., secretary; N. G. Newington, 76, Ondine-road, Dulwich, clerk; J. Lawrence, 32, Bridge-road, W., Battersea, clerk; A. Benwell, 10, Machell-road, Nunhead, S.E., clerk; H. G. Carvall, 52, Mortimer-road, Kingsland, N.E., clerk.

(South America) Trinidad Asphalt Paving Co., Ltd.—Capital £40,000. in £1. shares. This company has been formed to adopt an agreement with A. L. Barber and E. W. Sutphen, and to buy, acquire, import, sell, supply, manufacture, treat, use, and deal in all kinds of asphalt and similar substances. The subscribers to the memorandum of association are:—W. B. Biggs, 17, Linden-road, West Green, N., clerk; F. A. Goodworth, 23, Liberia-road, Highbury, clerk; A. S. Edwards, 14, Coleraine-road, Blackheath, clerk; W. Barber, Harefield, Winchmore Hill, N.E., clerk; H. E. Oldaker, 16, Albion-road, Stoke Newington, clerk; H. F. Ranger, 17, Lower Grosvenor Place, S.W., clerk; A. W. Lynn, 16, Jasmine Grove, Anerley, S.E., clerk.

St. Dennis Crown China Clay Co., Ltd.—Capital £5,000. in £1. shares. This company has been formed to adopt an agreement with L. Clow, and to dig, search for, quarry, get, win, work, sell, and deal in china clay, mica, and other mineral substances, in Devon, Cornwall, or elsewhere. Registered by McKenna & Co., 17 and 18, Basinghall-street, E.C.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 15th.

Acetic Acid—

Holland,	150 pks	A. & M. Zimmermann

Acetone—

Germany,	£200	J. M. Steel & Co.
,,	110	H. Lorenz

Antimony Ore—

A. Turkey,	118 t.	Hallett & Fry

Arsenic—

Melbourne,	55 cks.	G. H. Adams & Co.

Asbestos—

Italy,	£24	Dichi Asbestos Co.
Germany,	19	Craven & Co.
Italy,	19	T. Boon

Barytes—

Belgium,	90 cks.	J. L. Lyon & Co.
Germany,	57	W. Harrison & Co.
Belgium,	91	O'Hara & Hoar
,,	8	W. Harrison & Co.
Holland,	121	,,
,,	22	J. L. Lyon & Co.
,,	44	Taylor Brs.

Bleaching Powder—

Holland,	33 cks.	J. M. Steel & Co.
Germany,	£60	,,

Bone Meal—

E. Indies,	100 t.	A. Hunter & Co.

Caoutchouc—

Zanzibar,	5 c.	L. & I. D. Jt. Co.
Germany,	5	,,
Japan,	6	,,
Sydney,	20	Hoare, Wilson & Co.
E. Indies,	5	Ralli Brs.
France,	3	L. & I. D. Jt. Co.
Natal,	38	Hale & Son
Penang,	50	Prop. Bull Wf.
Aden,	21	L. & I. D. Jt. Co.

Castor Oil—

France,	25 pks.	F. Boehm
E. Indies,	25 cs.	L. & I. D. Jt. Co.
Belgium,	25 cks.	C. & E. Morton
,,	20	Anderson, Weber & Smith
France,	10	Snowdon, Sons & Co.

Caustic Potash—

Germany,	£580	Domeier & Co.

Chemicals *(otherwise undescribed)*

Holland,	£58	J. Barber & Co
,,	10	G. Rahn & Co.
U. States,	13	R. E. Drummond
Germany,	12	H. Lambert
,,	330	L. & I. D. Jt. Co.
,,	25	J. M. Steel & Co.
Holland,	22	B. S. Gerothwohl & Co.
Belgium,	100	T. Palmer
Germany,	664	Phillipps & Graves
Holland,	15	J. M. Steel & Co.
France,	193	R. Greening
Germany,	14	Blondeau & Co.
U. States,	518	E. E. Bailes
France,	162	B. & F. Wf. Co.
Belgium,	83	R. D. Lyon
,,	440	T. H. Lee
Germany,	110	,,

Citrate of Lime—

Italy,	22 cks.	B. Jacob & Sons
,,	13	Thames S. T. & L. Co., Ld.

Cream of Tartar—

France,	10 cks.	M. Ashby, Ld.
N. Zealand,	32	L. & I. D. Jt. Co.
France,	10	B. & F. Wf. Co.
,,	18	W. C. Bacon & Co.
,,	5 cs.	C. Atkins & Nisbet
Holland,	108 pks.	Kirkpatrick & Co.
France,	2	H. Johnson & Sons

Dyestuffs—

Alizarine

Holland,	8 pks.	G. Rahn & Co.

Aniline

Holland,	3 pks.	L. C. & D. Rly
Belgium,	9 4 cks.	W. Gerson & Co.

Argols

Italy,	51 cks.	Thames S. T. & L. Co., Ld.
France,	451 bgs.	B. Jacob & Sons

Cochineal

Germany,	27 bgs.	A. Everingham & Co.
Canaries,	38	W. M. Smith & Sons

Cutch

Singapore,	45 cs.	Borneo Co.

Extracts

Italy,	318 cks.	Union Ltge. Co.
Holland,	20	J. Norrenberg & Co.
France,	5	Bennett S. S. Co.
,,	10	B. & F. Wf. Co.
U. States,	10	W. C. Barnes & Co.

Gambier

Singapore,	340 bgs.	Brinkmann & Co.

Indigo

E. Indies,	27 chts.	J. W. Cook & Co., Ld.
,,	11	J. Hatton Hall & Co.
,,	4	Arbuthnot, Latham & Co.
,,	75	J. Finlay & Co.
,,	29	W. J. & H. Thompson
,,	23	L. & I. D. Jt. Co.
,,	4	Union Ltge. Co.
,,	50	A. B. Curtis & Co.
,,	4	Parsons & Keith
,,	13	R. Von Glehn & Sons
,,	10	W. France & Co., Ld.
,,	26	H. Johnson & Sons
,,	55	Park, Macfadyen & Co.
,,	15	Lon. & Til. L. Co.
,,	28	Hall & Wilson
,,	7	R. & J. Henderson

Shumac

Italy,	500 bgs.	J. Kitchin

Tanners' Bark

Natal,	7 t.	A. & W. Nesbitt
,,	21	Boutcher, Mortimore & Co.
Holland,	29	Little & Johnston
Belgium,	13	Leach & Co.
Natal,	148	Flack, Chandler & Co.
Adelaide,	35	H. Devitt & Co.

Turmeric

China,	8 pks.	Eastwood & Holt

Valonia

Turkey,	75 t.	Hicks, Nash & Co.

Dyestuffs *(otherwise undescribed)*

Germany,	2 t.	T. H. Lee

Farina—

Germany,	50 bgs.	Mulder & Co.
Holland,	300	R. Bennett & Co.
,,	50	Dunlop Brs. & Co.
,,	150	J. Barber & Co.
,,	50	J. Knill & Co

Glucose—

Germany,	23 pks.	220 c.	M. D. Co.
U. States,	250	250	Trier, Meyer, & Co.
,,	50	205	C. & E. Morton
,,	300	300	J. Palmer
,,	1,050	1,050	G. Clark & Son
,,	200	200	Vokins & Co., Ltd.
,,	50	288	W. Paterson & Co.
,,	3,500	3,500	Pearce, Pelly, & Co.
,,	100	579	A. E. Piggott
,,	50	300	Union L. Co., Ltd.
,,	800	2,177	Ohlenschlager Brs.
,,	5,804	8,754	R. G. Hall & Co.

Glue—

Germany,	£206	Phillipps & Graves
Holland,	84	W. H. Carey & Son
,,	8	G. Rahn & Co.
Italy,	270	Sander & Knott
Germany,	30	Craven & Co.
France,	19	Mory & Co.
Belgium,	976	J. Barber & Co.
Germany,	40	H. Lambert
,,	105	L. & I. D. Jt. Co.
U. States,	9	Armour & Co.

Infusorial Earth—

Germany,	£40	Phillipps & Graves
,,	30	Page, Son, & East
,,	18	British Asbestos Co.

Litharge—

Germany,	6 cks.	J. Barber & Co.

Magnesium Oxide—

Belgium,	563 c.	A. J. Luke & Co.

Manure—
E. Indies, 15 t. A. Hunter & Co.
Methyl Alcohol—
Belgium, 10 dms. Sawer, Sons, & Co.
Germany, 20 Hore & Scrivener
Belgium, 10 Norrenberg & Co.
France, 20 R. D. Lyon
Germany, 25 H. Lambert
Belgium, 5 R. D. Lyon
Mica—
U. States £720 G. Barker
E. Indies, 150 E. Flageollet & Co.
" 30 H. J. Perlbach & Co.
" 25 W. M. Smith & Sons
Molasses—
U. States, 50 cks. 300 c. E. & T. Pink
" 200 1,135 Seaward Brs.
Argentine, 3 20 Prop Hay's Wf.
Nitre—
Holland, 17 cks. J. Owen
Ochre—
France, 82 cks. C. F. Gerhardt
" 65 J. Flack
Holland, 13 pks. Phillipps & Graves
U. States, 170 cks. B. Diostone & Sons
Oxalic Acid—
Holland, 20 kgs. R. W. Greeff & Co.
Phosphate Rock—
U. States, 500 t. A. Hunter & Co
Bona, 100 J. Gibbs & Co., Ltd.
France, 200 J. Harrison
Algeria, 21 Berggren, Leete, & Co
W. Indies, 567 G. M. Bauer
France, 525 A. Hunter & Co.
Algeria, 1,600 A. Ford & Co.
Plumbago—
Germany, 17 cks B. Gallaway
" 10 T. H. Lee
Ceylon, 51 L. & I. D Jt Co.
Potash—
France, 202 c. P. Hecker & Co.
" 45 J. Barber & Co.
Potassium Carbonate—
France, 9 cks. Petri Brs.
Potassium Chloride—
Germany, 200 bgs. Bessler, Waechtor, & Co.
Potassium Oxymuriate—
Sweden £300 G. Boor & Co.
Potassium Permanganate—
Holland, £60 R. W. Greeff & Co.
Potassium Sulphate—
Germany, 100 bgs. Bessler, Waechtor, & Co.
Pumice Stone—
Italy, 10 c. Harkness & McIntosh
" 7 t. L. & N.-W. Rly. Co.
" 2 O'Hara & Hoar
" 1 J. Flack
" 8 Fellows, Morton, & Co.
" 2 H. B. Alder & Co.
" 2 A. G. Soutler & Co
Pyrites—
Spain, 750 t. Naylor, Benzon, & Co.
" 2,023 C. Tennant, Sons, & Co.
Quicksilver—
U. States, 250 btls. J. C Geiselbrecht & Co
Rosin—
France, 75 brls. W. Harrison & Co.
Saltpetre—
Germany, 12 cks. L. & I. D. Jt. Co.
" 20 J. Hall & Son Ltd.
E. Indies, 345 bgs. J. W. Cook & Co., Ltd.
" 2,540 Lucas & Spencer's Wf.
" 2,195 Perkins & Homer
Soda—
Belgium, 1,860 c. Sawer, Sons, & Co.
" 600 Domeier & Co.
France, 23 P. Hecker & Co.
Sodium—
Belgium, 22 cks. R. W. Greeff & Co.
Sodium Sulphate—
Belgium, £165 J. Harrison
Starch—
U. States, 3,100 pks. Union L. Co.
Holland, 70 cs. Phillipps & Graves
" 2 607 Little & Johnston
Belgium, 240 Taylor Brs.
France, 200 Prprs. Dowgate Dk.
Holland, 40 Hernu, Peron, & Co.
" 620 A. Starck
Belgium, 527 F. C. Devon & Co.
" 285 C. Tennant, Sons, & Co.
" 80 Becker & Wagner
" 5 bgs. T. H. Lee
" 270 pks. Seaward Brs.
" 50 cs. J. Harrison
Germany, 6 cks. T. H. Lee
Stearine—
Belgium, 84 bgs. H. Hill & Sons
" 50 Kumpf & Eckenstein
France, 285 G. Boor & Co.
Belgium, 64 W. H. Mitchell
Sulphur—
Italy, 200 t. B. Jacob & Sons
Talc—
France, £70 Blackwell & Co.
Tar Salts—
Holland, £400 J. Owen
Tartaric Acid—
Holland, 9 cks. B. & F. Wf. Co.
" 30 kgs. Kirkpatrick & Co.
" 1 ck. F. C. Devon & Co.
Belgium, 37 "
Thorium Nitrate—
Germany, £275 F. Boehm
Ultramarine—
Holland, 10 cs. J. Barber & Co.
Varnish—
U. States, 10 pks. Lunham & Moore
" 178 J. R. Francis & Co.
Germany, 39 T. H. Lee
Verdigris—
Holland, 1 ck. G. Rahn & Co.
Waste Salt—
Belgium, 50 t. J. G. Back
White Lead—
Belgium, 18 cks. J. L. Lyon & Co.
" 93 T. & W. Farmiloe, Ltd.
" 46 Burrell & Co.
Germany, 62 Wilkinson, Heywood, & Co.
Holland, 20 Taylor Brs.
" 11 J. R. Francis & Co.
Wood Pulp—
U. States, 659 pks. Henderson, Craig, & Co.
Holland, 105 Thames S. T. & L. Co.
" 54 Vokins & Co.
Norway, 4,000 Johnsen & Jorgensen
Belgium, 300 A Frey & Co.
Sweden, 200 Alsing & Co.
Holland, 360 J. Owen
Sweden, 454 Raby & Mather
" 3,730 London Paper Mill Co.
Germany, 106 F. V. Smythe & Co.
U. States, 14,775 W. G. Taylor & Co.
Zinc Oxide—
Holland, 500 cks. Soundy & Sons
U. States, 200 M. Ashby, Ltd.
Holland, 48 J. Matton

LIVERPOOL.

Week ending January 13th.

Acetic Acid—
Antwerp, 3 brls.
Antimony—
Valparaiso, 57 sks. Kleinwort, Sons & Co.
Antimony Salts—
Bremen, 2 cks.
Arsenic—
Stettin, 10 cks.
Barytes—
Rotterdam, 51 cks.
Borax—
Hamburg, 868 bgs. Browne, Geveke & Co.
Rotterdam, 10 cks.
Caoutchouc—
Havre, 4 cks. 28 cs.
Castor Oil—
Calcutta, 250 cs. Ralli Brs.
Colours—
Rotterdam, 5 cks. 2 kgs.
Cottonseed Oil—
New York, 250 brls.
Cream of Tartar—
Oporto, 3 cks.
Bordeaux, 27
Barcelona, 1 20 brls.
Dextrine—
Stettin, 25 bgs. Malrids & Baicroft
Dyestuffs—
Argols
Oporto, 25 cks.
Cutch
Rangoon, 500 bxs.
Extracts
New York, 35 brls. 111 cks.
Fustic
Tampico, 8,836 pps.
Vera Cruz, 1,861 logs
Indigo
Calcutta, 48 chts.
Glucose—
St. John's, N.B., 150 brls.
Baltimore, 350
Glue—
Boston, 10 brls. 28 crts. 10 kgs. Richards & Ward
New York, 20 Anglo-Am. Oil Co. Ld.
Rotterdam, 207 bgs.
Iodine—
Valparaiso, 33 brls. A. Gibbs & Sons
" 39
Iron Oxide—
Antwerp, 2 cks. J. T. Fletcher & Co.
Limestone—
Antwerp, 1 crt. J. T. Fletcher & Co.
Mangarese Ore—
Rio de Janeiro, 20 t. Davidson, Urwin & Co.
Mineral White—
Fiume, 400 bgs.
Molasses—
Alexandria, 500 brls.
Paint—
New York, 30 brls. Anglo-Am. Oil Co., Ld.
Rotterdam, 1 cs.
Paraffin Scale—
New York, 1,147 brls. Thompson & Bedford
Baltimore, 200
Phosphate—
Bona, 1,300 t.
Phosphate Rock—
Brunswick, Ga., 1,141 t.
Bona, 1,060
Plumbago—
Genoa, 100 bgs.
Potash—
Hamburg, 10 cks.
Stettin, 32 Sachse & Klemm
Antwerp, 5
Rotterdam, 5
Pyrites—
Huelva, 2,515 t. Matheson & Co
Salt—
N. Orleans, 500 sks. J. S Harmon
Hamburg, 500 bgs.
Saltpetre—
Hamburg, 150 kgs. 37 cks. 10 bgs.
Silver Sulphide—
Vera Cruz, 14 cs.
Soap—
New York, 43 cs. & qty.
Soapstone—
Genoa, 200 bgs.
Sodium Nitrate—
Junin, 4,533 sks.
Starch—
Baltimore, 600 bgs.
Antwerp, 40 cs.
Stearine—
Antwerp, 13 bgs. J. T. Fletcher & Co.
" 13
Tallow—
Boston, 250 brls. 45 hds. 86 tcs
New York, 74 100
Baltimore, 75
Tartar—
Tarragona, 5 cks. Sache & Klemm
Tartaric Acid—
Bordeaux, 1 ck.
Rotterdam, 2
Treacle—
New York, 534 brls.
Bordeaux, 7 cs.
Ultramarine—
Hamburg, 1 ck. 1 cs.
Rotterdam, 20
Waste Salt—
Hamburg, 302 bgs. 10 brls.
White Lead—
Rotterdam, 98 cks.
Wood Pulp—
Gothenburg, 170 bls.
Skien, 2,975 H. Tyrer & Co.
Krageroe, 2,400 "
Boston, 1,525 rolls Thin & Sinclair
Zinc Oxide—
Antwerp, 35 brls.
Zinc White—
Hamburg, 80 cks.
Stettin, 50 Morris Ashby & Co.
Rotterdam, 151

MANCHESTER.

Week ending January 15th.

Acetic Acid—
Ghent, 15 crbys.
Albumen—
Hamburg, 9 cks.
Alizarine—
Rotterdam, 11 cks.
Alizarine Colours—
Rotterdam, 22 bgs.
Ammonium Chloride—
Rotterdam, 21 cks.
Aniline Colours—
Rotterdam, 1 bx.
Aniline Oil—
Rotterdam, 1 tin
Aniline Salts—
Rotterdam, 16 cks.
Antimony Salts—
Hamburg, 1 ck.
Barytes—
Rotterdam, { 36 cks. 100 bgs.
Colours—
Antwerp, 2 cks. J. T. Fletcher & Co.
Rotterdam, { 55 28 cs. 5 bxs. 28 brls.
Extracts—
Halifax, N. S., 50 cks.
Farina—
Hamburg, 90 bgs.
Glucose—
Rotterdam, 4 cks.
Glue—
Antwerp, 2 brls.
Rotterdam, 40 bgs.
Litharge—
Rotterdam, 4 cks.
Logwood—
Jamaica, 334 t.
Potash—
Rotterdam, 33 cks.
Potassium Bromide—
Hamburg, 10 cs.
Rosin—
Savannah, 4,440 brls.
Soap—
Hamburg, 1 cs.
Sodium Nitrate—
Rotterdam, 4 cks.
Starch—
Rotterdam, 150 cs.
Antwerp, 180
Hamburg, 50 brls. 40
Stearine—
Rotterdam, 20 bls.
Tartaric Acid—
Rotterdam, 8 cks.
Ultramarine—
Hamburg, 7 cks.
Wood Pulp—
Halifax, N.S., 1,289 bls Maritime Sul Fibre Co.
" 10,517
Rotterdam, 480
Zinc Ashes—
Antwerp, 8 cks.
Zinc Oxide—
Antwerp, 60 brls.

HULL.

Week ending January 15th.

Antimony—
Leghorn, 29 cks. Wilson, Sons, & Co., Ld.
Hamburg, 57 cs. "
Barytes—
Rotterdam, 64 cks. Hutchinson & Son
" 109 W. & C. L. Ringrose
Carbolic Acid—
Rotterdam, 5 cks. W. & C. L. Ringrose
Chemicals *(otherwise undescribed)*
Bremen, 20 bgs.

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Rotterdam, 1 cs. Hutchinson & Son
Danzig, 25 cks.
Antwerp, 5 Wilson, Sons, & Co., Ld.

Cod Oil—
Aalesund, 51 cks. Wilson, Sons, & Co., Ld.
Bergen, 75 brls. "
Hamburg, 5 "

Colours—
Rotterdam, 6 pks. Hutchinson & Son
5 cs.
Bremen, 5 cks. Hanger, Watson, & Harris
" 4 Storry, Witty, & Co., Ltd.
Antwerp, 21 pks. Wilson, Sons, & Co., Ld.
Bremen, 45 cks.
Stettin, 4 "
Hamburg, 11 "
Danzig, 4 "
Rotterdam, 6 W. & C. L.
111 pks. Ringrose

Cottonseed Oil—
New York, 300 brls. Wilson, Sons. & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 21 cks. W. & C. L. Ringrose
Gambier
Hamburg, 126 pks. Wilson, Sons, & Co., Ld.

Dyestuffs (*otherwise unaescribea*)
Hamburg, 105 bgs. Wilson. Sons, & Co., Ld

Farina—
Harlingen, 280 bgs. W. & C. L. Ringrose
Antwerp, 5 Wilson, Sons, & Co, Ld.

Glucose—
Rotterdam, 100 bgs. Hutchinson & Son
Stettin, 200
Rotterdam, 40 W. & C. L. Ringrose
New York, 750 brls.

Glue—
Hamburg, 20 bgs. Wilson,
1 bkt. Sons, & Co., Ld
Stockholm, 1 bg. "
Dunkirk, 72 cks. "

Litharge—
Rotterdam, 7 cks. Hutchinson & Son
" 7 W. & C. L. Ringrose

Manganese—
Hamburg, 7 cks.

Nickel Salts—
Rotterdam, 2 cks. Hutchinson & Son

Phosphate—
Ghent, 500 bgs.

Plumbago—
Leghorn, 250 bgs.

Potash—
Dunkirk, 26 dms.

Saltpetre—
Hamburg, 10 kgs. Wilson,
12 bgs. Sons, & Co., Ld.

Soap—
Naples, 31 cs. Wilson, Sons, & Co., Ld.
New York, 750 bxs.

Soda—
Ghent, 50 bgs. Wilson Sons & Co., Ld.
Antwerp, 20 Bailey & Leetham, Ld.
" 100 Wilson, Sons, & Co., Ld.

Sodium Nitrate—
Junin, 11,559 bgs. Nich Waterhouse, & Sons

Starch—
Ghent, 127 cs. Wilson, Sons. & Co., Ld.
Amsterdam, 160 Hutchinson & Son
Antwerp, 60
Bremen, 1,693 Veltmann & Co.
Amsterdam, 40 W. & C. L. Ringrose

Tartar—
Naples, 23 cks. Wilson, Sons, & Co. Ld.
Bordeaux, 5 Rawson & Robinson

Tartaric Acid—
Rotterdam, 6 cks. Hutchinson & Son
" 2 W. & C. L. Ringrose

Turpentine—
Bordeaux, 7 cks. Rawson & Robinson

Ultramarine—
Rotterdam, 1 ck. Hutchinson & Son

Waste Soap—
Marseilles, 10 cs. Wilson,
20 dms. Sons & Co., Ld.
" 10

White Lead—
Antwerp, 74 cks. Bailey & Leetham, Ld.
Amsterdam, 50 Hutchinson & Son
Ghent, 54 brls. Wilson, Sons. & Co., Ld.
Rotterdam, 10 cks. Hutchinson & Son
" 62 W. & C. L. Ringrose

Wood Pulp—
Hamburg, 480 pks. Bailey & Leetham, Ld.
Drontheim, 640 bls. Wilson, Sons, & Co., Ld.
Bergen, 320 pks. "
Hango, 46 bls. J. Good & Sons

Zinc Oxide—
Rotterdam, 20 cks. Hutchinson & Son

GLASGOW.

Week ending January 20th.

Acetic Acid—
Rotterdam 10 dmjhns. J. Rankine & Son

Ammonium Chloride—
Rotterdam, 3 cks. J. Rankine & Son

Barium Chloride—
Rotterdam, 8 cks. J Rankine & Son

Barytes—
Hamburg, 2 cks. 150 bgs.

Castor Oil—
Leghorn, 10 cs.
Calcutta, 150

Chemicals (*otherwise undescribed*)
Hamburg, 6 cs.

Chrome Alum—
Rotterdam, 15 brls. J. Rankine & Son

Colours—
Rotterdam, 7 pks. J. Rankine
7 crts. & Son

Cottonseed Oil—
N'port News, 100 brls.
New York, 1 0

Dextrine—
Hamburg, 100 bgs.

Dyestuffs—
Alizarine
Rotterdam 42 cks. J. Rankine
64 brls. & Son
Aniline
Rotterdam, 26 cks. J. Rankine
7 brls. 9 bxs & Son
Aniline Colours
Hamburg, 1 cs.
Argols
Bordeaux, 61 cks.
Cutch
Rangoon, 676 bxs. P. Henderson & Co.
Extracts
Philadelphia, 50 brls.
Logwood
St. Marc, 442 t.
Shumac
Palermo, 580 bgs 230 bls.

Farina—
Delfszyhl, 500 bgs. J. Rankine & Son

Gelatine—
Hamburg, 10 cs.

Glucose—
New York, 200 brls.
Philadelphia, 250

Glue—
Rotterdam, 20 bgs. J. Rankine & Son
Hamburg, 40

Iron Sul hate—
Rotterdam, 5 cks. J. Rankine & Son

Lead Acetate—
Hamburg, 20 cks J. Rankine & Son

Manganese Ore—
Poti, 2,700 t. United Alkali Co.

Paint—
New York, 80 kgs. 1 bx.

Paraffin Scale—
Rangoon, 544 cs. P. Henderson & Co.

Plumbago—
Colombo, 16 brls.

Potash—
Rotterdam, 54 cks. J. Rankine & Son

Pumice Stone—
Messina, 10 cks 30 bgs.

Pyrites—
Huelva, 1,888 t. Tharsis Sulphur & Copper Co., Ld.

Rosin—
Savannah, 6,300 brls. John Parker

Saltpetre—
Hamburg, 54 cks.

Soap—
Newport News, 67 brls.

Starch—
New York, 100 bgs.
Rotterdam, 20 cs. J. Rankine & Son

Sulphur—
Catania, 1,700 bgs. 67 brls.

Tallow—
Rotterdam, 25 cks. J Rankine & Son

Tar—
Hamburg, 45 dms.

Tar Waste—
Rotterdam, 6 cks J. Rankine & Son

Treacle—
New York, 115 brls.
Boston, 71
Philadelphia, 700 Waddell & Bryson
" 50

Turpentine—
Savannah, 1,250 brls. John Parker

Varnish—
New York, 30 brls 1 bx.

Waste Salt—
Hamburg, 132 cks

White Lead—
Rotterdam, 58 cks. J. Rankine & Son

Wood Pulp—
Drontheim, 1,500 bls.
Hamburg, 100
Christiania, 709

Zinc Oxide—
New York, 50 brls.

TYNE.

Week ending January 15th.

Alum Earth—
Hamburg, 26 cks Tyne S. S. Co.

Aniline Colours—
Rotterdam, 5 brls. Tyne S. S. Co.

Barium Chlorate—
Rotterdam, 700 bgs. Tyne S. S. Co.

Barytes—
Rotterdam, 79 cks. Tyne S. S. Co.
Antwerp, 50 bgs "

Colours—
Rotterdam, 5 brls. Tyne S. S. Co.
Antwerp, 3 cks. "

Felspar—
Christiania, 500 bgs.

Glucose—
Baltimore, 100 brls.

Glue—
Antwerp, 1 ck. Tyne S. S. Co.

Limestone—
Antwerp, 10 crts. Tyne S. S. Co.

Ochre—
Antwerp, 2 bgs. Tyne S. S. Co.

Paraffin Scale—
New York, 90 brls. C. Hassell

Quicksilver—
Copenhagen, 100 cyldrs.

Soap—
Rotterdam, 2 cs. Tyne S. S. Co.

Sodium—
Hamburg, 1 ck. Tyne S. S. Co.

Starch—
Rotterdam, 50 cs. Tyne S. S. Co.
Antwerp, 192 "

Stearine—
Antwerp, 7 bgs. Tyne S. S. Co.

Tartaric Acid—
Rotterdam, 20 cks. Tyne S. S. Co.

Varnish—
New York, 5 brls. Furness, Withy. & Co.
Antwerp, 10 kgs. Tyne S. S. Co.

Waste Salt—
Hamburg, 600 t. Clepham & Wiencke

Wood Pulp—
Christiania, 2,550 bls. Christopher, Andrews, & Co.

Zinc Oxide—
Antwerp, 10 brls. Tyne S. S. Co.
Rotterdam, 40 cks. "

GOOLE.

Week ending January 12th.

Alizarine—
Rotterdam, 14 brls.

Alkali—
Calais, 4 cks.

Aniline—
Hamburg, 4 cks. 1 bx.

Aniline Dyes—
Rotterdam, 553 cks. 80 cs.

Barytes—
Antwerp, 200 bgs.

Bleaching Powder—
Rotterdam, 12 cks.

Caoutchouc—
Boulogne, 7 cks.

Colours—
Hamburg, 10 cks. 5 cs.

Dyestuffs (*otherwise undescribed*)
Boulogne, 46 cks. 1 cs.
Amsterdam, 10

Farina—
Hamburg, 282 bgs.

Indigo—
Rotterdam, 1 brl.

Madder—
Rotterdam, 2 cks.

Ochre—
Calais, 66 cks. 1 cs.

Paint—
Hamburg, 3 dms.

Potash—
Dunkirk, 37 cks. 20 dms.

Rosin—
Brunswick, Ga., 3,403 brls.

Saltpetre—
Antwerp, 85 bgs.

Soap—
Rotterdam, 1 cs.

Sodium Nitrate—
Rotterdam, 4 cks.

Starch—
Ghent, 77 bxs.

Varnish—
Hamburg, 1 ck.

Waste Salt—
Hamburg, 224 cks.

Wood Pulp—
Rotterdam, 79 bls.

GRIMSBY.

Week ending January 15th.

Albumen—
Hamburg, 11 cks.

Aniline—
Hamburg, 4 cks.
Antwerp, 4 11 pks.

Caoutchouc—
Hamburg, 2 pks.
Rotterdam, 3 cs. 1

Chemicals (*otherwise undescribed*)
Hamburg, 2 cks. 3 cs.
Rotterdam, 12

Colours—
Antwerp, 6 cks. 1 cs. 41 pks.
Hamburg, 19 17
Rotterdam, 37 bgs. 1

Dyestuffs (*otherwise undescribed*)
Dieppe, 16 cks.

Lamp Black—
Rotterdam, 3 cks

Starch—
Antwerp, 110 cs.

Wood Pulp—
Rotterdam, 15 bls. 38 pks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
ending January 19th.

ai,	8 cs		£13
abeth,	13		18
,	5		10
—			
almers,	2 t.	3 c.	£11
ius,		13	9
dria,		3	9
p,		10	10
ia—			
own,	12 cs.		£17
ia (Liquid)—			
ma,		8 c.	£12
own,	1 t.		39
i,	20 dms.		40
e,	52 cks.		417
ium Carbonate –			
ork,	30 pks		£180
ma.	4 t.		101
ium Chloride—			
a,	2 t.		£62
ntinople,	2	10 c.	78
ium Sulphate—			
ara,	25 t.	1 c.	£234
k,	180		1,620
,	50		460
rg,	50		450
o,	5	16	61
,	10		100
hous Phosphorus—			
don,	1 t.		£26
rous Ammonia—			
y,	15 cs.		£130
,	6 cyldrs		40
ing Powder—			
don,		10 c.	£7
es,	1 t.		10
c Acid—			
hurch,		10 c.	£13
—			
rg,	2 t.	3 c.	£96
dam.	50 cks.		67
ic Acid—			
y,		1 cs.	£5
es,		5	38
ork,	25 cks.	20 btls.	126
dam,	37		140
		1	7
don	30 dms.		6
ma,	100		315
ic Acid Gas—			
rg,		9 c	£29
	34 tubes		13
Potash—			
nd,	20 dms.		£28
Soda—			
,	1 t.	4 c.	£17
own,		5	6
n,		11	13
gton,		3	5
don,	2	7	45
lphia,	134		800
als *(otherwise undescribed)*			
ai,	12 pks.		£76
	133		108
e,	49		50
le,	76		50
dam,		6 cks.	16
Kong,	3		19
,	16	2 cs.	46
ore,		5	18
ork,	2		35
n's, N.B.,		10 kgs.	10
rne,		26	92
y,		30	217
		25 dms.	36
rg,	6	19	171
,		18	107
own,	11		21
,	17	51 cks.	716
		4 c.	12
cid—			
		5 c.	£35
,	1 t.		120
		5 cks.	30
rg,	1		107
,		2	14
gen,		10	55
abeth,		2	10
		2	11
		6	168
urch,		2	10
oducts—			
rine			
,	100 cks.		£216
Aniline			
Calcutta,	1 cs.		£19
Melbourne,	3		122
Aniline Oil			
New York,	20 dms.		£630
Anthracene			
Ludwigshafen,	232 cks.		£680
Benzine			
E. London,	20 dms.		£15
Benzol			
Rotterdam,	118 cks.		£484
Creosote			
New York,	1,000 cks.		£629
Boston,	15 brls.		12
Newport News,	500		350
Crude Xylol			
New York,	29 dms.		£360
Naphtha			
Treport,	47 brls.		£140
Naphthaline			
Hamburg,	6 cks.	1,548 bgs.	£478
Pitch			
Dunkirk,	1,846 t.		£2,306
Dunedin,	12 cks.		7
Alexandria,		300 brls.	79
Dusseldorf,		57	125
Naples,	1,305 t.		1,800
Antwerp,	700		866
Philadelphia,	250 cks.		80
Hochfeld,			225
New York,	205	400	238
Boston,	23	150	148
Aviles,	500 t.		525
Prussian Blue			
Hamburg,	6 kgs.		£8
Pyridine			
Rotterdam,	12 cks.		£136
Tar			
Mauritius,		20 runlets	£27
Wellington,	30 dms.		6
Malmo,	2 cks.		10
Calcutta,		10	11
Hamburg,	4 brls.		5
Tar Salts			
New York,	53 cks.		£400
Pt. Elizabeth,	5 cs.		16
Toluol			
Rotterdam,	25 cks.		£170
Coal Products *(otherwise undes.)*—			
Treport,	2 dms		£27
Newcastle,	100		20
Copper Sulphate—			
Piræus,		11 c.	£9
Danzig,	10 t.		165
Odessa,	3		45
Rotterdam,	4		65
Konigsberg	5		83
Bordeaux,	44	16	732
Paris,	14	14	235
Wellington,		10	7
Cream of Tartar—			
Adelaide,		5 c.	£22
Pt. Elizabeth,		9	43
Mossel Bay,	3 cs.		14
Yokohama,	1 t	1	90
Durban,		3	13
Melbourne,	4		308
Disinfectants—			
Hamburg,	25 cks.	5 kgs.	£154
E London,	20		30
Madras,		15 dms.	13
Amsterdam,		20	11
Karachi,	50		175
Canterbury,		80 5 cs.	63
Cape Town,	40		14
Hypophosphite of Lime—			
Philadelphia,	1 t.		£370
Manure—			
Brest,	124 t.		£870
Launceston,	20		50
Jersey,	20		120
Cherbourg,	310		630
Acajutla,	14	16 c.	120
Dunkirk,	145		616
Ghent,	37	11	20
Uerdingen,	20	9	80
Martinique,	10		90
Malaga,	10		80
Canaria,	43	6	352
Bordeaux,	63	12	190
Teneriffe,	25		130
Nitric Acid—			
Jersey,	14 carboys		£28
Sydney,	10 c.		14
Madras,	10		14
Colombo,	10		14
Foochow,	4		11
Potash—			
E. London,		6 c.	£7
Auckland,		6	28
Gothenburg,	5 t.		100
Potassium Bicarbonate—			
Philadelphia,	2 t.	6 c.	£61
Potassium Bichromate—			
Jamaica,		5 c.	£13
Dunedin,	3 cks.		53
Bombay,		10	23
B. Ayres,		14	26
Potassium Bromide—			
Bombay,		2 c.	£20
Potassium Chlorate—			
Jamaica,	1 t.		£32
B. Ayres,		10 c.	20
Hong Kong,		15	25
Madeira,		8	15
E. London,	25 kgs.		43
Potassium Cyanide—			
Sydney,		30 cs.	£287
Shanghai,		19 c.	40
New York,	4	100	932
Delagoa Bay,	24	10	2,171
Melbourne.	5	10	636
Potassium Permanganate—			
Calcutta,		10 c.	£37
Rosin Oil—			
Pt. Elizabeth,	18 t.	12 c.	£135
Saltpetre—			
Christchurch,	1 t.	4 c.	£25
Sheep Dip—			
Calcutta,	200 dms.		£12
E. London,		400 cs.	500
Durban,	200	100	164
Cape Town,	300	100	168
Algiers,		25	50
M. Video,		200	450
Delagoa Bay,	25		5
Dunedin,	110		2 cks. 100
B. Ayres,	11 t.	1,875	15 c. 4,392
Soda—			
Malta,	2 t.		£6
Soda Crystals—			
Dunedin,	1 t.	3 c.	£4
Durban,	1	10	7
Sodium Bicarbonate—			
Durban,	1 t.		£6
Pt. Elizabeth,		8 c.	5
Mossel Bay,		12	9
Beira,		1	5
Auckland,	2	5	12
Sodium Hyposulphite—			
Dunedin,	1 t.	1 c.	£6
Hong Kong,	1		7
Sodium Sulphate—			
Ghent,	50 t.		£75
Sulphur—			
B Ayres,	23 t.	16 c.	£197
E. London,	1		12
Colombo.		10	5
Sulphuric Acid—			
Trincomalee,	1 t.	15 c.	£10
Pt. Elizabeth,	1	18	17
Durban,	1	18	19
Beira,		4	10
Hamburg,	20 carboys		16
Tartaric Acid—			
Calcutta,		2 c.	£15
Sydney,	20 kgs.		113
Manila,		3	18
Christchurch,		3	15
Limon,		5	20
Bombay,	8		42
Pt. Elizabeth,		5	34
Yokohama,	1 t.	1	121

LIVERPOOL.
Week ending January 19th.

Acetic Acid—				
Bahia,	5 t.	16 c.		£59
Alkali—				
Santander,	11 t.	7 c.		£48
Alum—				
Salonica.	10 t.			£50
Alexandretta,	16			80
Melbourne.	2	1 c.	1 q.	11
Ammonia (Liquid)—				
Gd. Canary,		8 c.		£11
Ammonium Carbonate—				
Oporto,	1 t.			£26
Melbourne Bay,		3 c.		6
Hiogo,				168
Lisbon,		12		17
Ammonium Chloride—				
Samsoun,	1 t.			£31
Varna,		6 c.		9
Beyrout,	2			62
Trieste,	1			30
Genoa,	3	1		52
Barcelona,	3	3		58
Antwerp,	1 ck.			16
Ammonium Sulphate—				
Rio de Janeiro,	5 t.			£43
Venice,	10			91
Las Palmas,	25	5 c.		255
Nantes,	30	10		259
Gd. Canary,	11	5		96
Demerara,	190	4	1 q.	1,769
Valencia,	101	2	1	856
Arsenic—				
Santander,		2 c.		£3
Bleaching Powder—				
Baltimore,	55 cks.			
Bilbao,	131			
Boston,	898			
Calcutta,		165 cs.		
Lisbon.	3			
New York,	322			
Philadelphia,	167			
Rouen,	24			
Seville.	60			
Tampico,	8			
Boracic Acid—				
B. Ayres,	1 t.			£72
Hamburg,	1	3 c.		30
Sydney,	2	15		74
Hiogo,	2	19	2 q.	110
Borax—				
B. Ayres,		9 c.	3 q.	£8
E. London,	3 t.	5	1	63
Kustendjie,	5	17		110
Havana,		19	3	17
Rotterdam,	4			64
Melbourne,	1			16
Calcium Chloride—				
Odessa,	15 t.	2 c.		£30
Boston,	2	17		6
New York,	5	10		13
Carbolic Acid—				
Alexandria,		2 c.		£10
B. Ayres,		17		38
Wellington, N.Z.,		9		24
Baltimore,	15	3	1 q.	704
New York,	5	11	3	323
Singapore,		17	1	10
Yokohama,	3			156
Caustic Potash—				
Barcelona,	2 t.	2 c.		£60
Cape Town,	1	1		30
Caustic Soda—				
Adelaide,	65 dms.			
Antwerp,	35			
Bahia,	15			
Barcelona,	188	48 cks.		
Batavia,	120			
Beyrout,	10			
Bilbao,	100			
Boston,			154 brls.	
B. Ayres,	200			
Calcutta.	48			
Carupano,	12			
Catania,	15			
Colombo,	12			
Corfu,	30			
Hamburg,	50			
Havana,	25			
Havre,	30			
Johannesburg,	10			
La Guayra,	15			
Libau,	35			
Malaga,	50			
Manila,	250			
Marseilles,	20			
Melbourne,	42	22 pks		
Mexico,	34			
Milwaukee,	150			
Naples,	10			
New York,	87	100		
Pasages,		30		
Petrolia,	35			
Puerto Cabello,	16			
Rangoon,	40			
Rio de Janeiro,	53			
Rotterdam	55	88		
Rouen,	144			
Samarang,	59			
Santander,	117			
Santos,	50			
Sarnia,	35			
Seville,	210	370		

Singapore, 10
Sourabaya, 10
Talcahuano, 25
Tampico, 71
Tarragona, 15
Toledo, 40
Vera Cruz, 50

Chemicals *(otherwise undescribed)*
B. Ayres, 19 c. 2 q. £32
Odessa, 2 t. 49
Rotterdam, 1 29
Stettin, 10 15
Madras, 3 310
Calcutta, 17 7 1 61
Philadelphia, 13 4 401

China Clay—
Boston, 2,422 cks.
B. Ayres, 80
Madras, 160
Naples, 40
Philadelphia, 550
Portland, 538
Rio de Janeiro, 30
Tampico, 5 t.

Citric Acid—
Odessa, 5 kgs. £28

Coal Products—
Alizarine
Samsoun, 10 kgs.
Aniline Colours
Aleppo, 1 kg.
Aniline Oil
Barcelona, 13 cks.
Genoa, 15 dms.
Aniline Salts
New York, 48 pks.
Creosote
Bordeaux, 1,030 brls.
Pitch
Accra, 6 cks.
Cette, 548 t.
Tar
Accra, 25 brls. 4 t. 14 c.
Demerara, 30

Copper Sulphate—
Leghorn, 55 t. 6 c. £894
Genoa, 122 4 1 q. 1,897
Venice, 34 10 540
Bordeaux, 123 10 1 1,947
Fiume, 55 16 3 930
Algiers, 39 14 602
Paris, 25 17 431
Oporto, 12 6 190
Cette, 24 19 2 400
Messina, 8 5 2 130
Trieste, 10 2 1 170
Catania, 5 1 2 81
Santiago, 4 1 64
Christiania, 1 6 1 22
Brisbane, 1 16
Antwerp, 1 1 17
Tarragona, 9 19 155
Smyrna, 1 3 2 18
Beyrout, 9 6
Naples, 19 19 2 314
Ancona, 45 3 712
Calamata, 7 14 3 118
Rouen, 15 3 245
Aliceri, 12 32
Piræus, 16 2 2 255
Marseilles, 31 10 551
Nantes, 14 14 235

Copperas—
Talcahuano, 3 t. £6

Dried Blood—
Gd. Canary, 5 t. 6 c. 2 q. £35

French Chalk—
Boston, 100 bgs.

Guano—
Malaga, 98 t. 17 c. £591

Iron Oxide—
Philadelphia, 12 t. £56

Lead Acetate—
Piræus, 10 c. £20
Samsoun, 10 2 q. 12

Magnesia—
Paris, 84 cs.

Magnesite (Bricks)—
New York, 13 t. 6 c. 1 q. £114

Magnesium Carbonate—
Sydney, 6 c. £10

Magnesium Chloride—
Bahia, 15 c. £2
Paris, 10 t. 1 1 q. 24

Magnesium Sulphate—
Vera Cruz, 1 t. £5

Manure—
Morlaix, 150 t. 1 q. £607
Marseilles, 14 2 c. 1 41
Cherbourg, 4 2 3 20
Las Palmas, 5 8 30
Nantes, 248 16 2 485
Bordeaux, 48 17 1 184

Muriatic Acid—
Bahia, 4 t. 5 c. £40

Oxalic Acid—
Boston, 33 t. 16 c. 2 q. £881

Paint—
Akassa, 20 kgs.
Algiers, 23 dms.
Algoa Bay, 150
Assinee, 48
Axim, 30
Callao, 60 cs. 90 pks.
C. C Castle. 250
Cartagena, N.G., 60
" Sp., 1
Cienfuegos, 2 cks.
Gibraltar, 131 36 dms.
Havana, 2
Hong Kong, 280 —
Lisbon. 40
Maracaibo, 106 pks.
M. Video, 22 cs. 8 cks.
Nasau, 121 pks.
Para, 75
Pisagua, 3 cks.
Pisco, 7
San Domingo, 17
San Juan, 60
Shanghai, 40 dms.
Sierra Leone, 386
Sulymah, 18
Talcahuano, 40
Vera Cruz, 50
Yokohama, 90

Painters' Colours—
Accra, 96 pks.
Antwerp, 58
Bahia, 66
Baltimore, 121 cks.
Barcelona, 1
Bari, 1
Bombay, 257
Boston, 100 bgs.
B. Ayres, 156 40 kgs.
New York, 25
Para, 34
Pisagua, 3
Pt. Limon, 200
St. Thomas, 15
Valparaiso, 65 dms. 695

Paraffin Wax—
Algoa Bay, 30 cks.
Brass, 10 dms.
Genoa, 57 pks.
Leghorn, 110 bgs.
Naples, 6
Palermo, 8
Piræus. 6
Salonica, 18 cs.
Skien, 10
Smyrna, 20 bxs.
Volo, 10

Potassium Bichromate—
Piræus, 7 c. £9
Constantinople, 1 t. 1 3 q. 41

Potassium Carbonate—
New York, 32 t. 18 c. £576
Constantinople, 11 2 brls. 21

Potassium Chlorate—
B Ayres, 9 c. £15
Hamburg, 1 t. 5 38
Rarders, 2 66
Vera Cruz, 1 3 3 q. 42
Stettin, 1 31
Fairwater, 10 12
Bari, 1 10 48
Sydney, 5 156
Hiogo, 17 10 541

Potassium Cyanide—
Coruna, 2 c. £16

Potassium Prussiate—
Genoa, 2 t. 19 c. £132
Vera Cruz, 2 116

Potassium Silicate—
Amsterdam, 1 t. 5 c. 1 q. £10

Salt—
Adelaide, 20 t.
Akassa, 670 1 c.
Algoa Bay, 17 17
Antwerp, 150
Baltimore, 253 1
Barbadoes, 50
Batanga, 12 5
Boston, 492
Brass, 46 15
Calcutta, 1,944
C. C Castle, 150
Christiania, 112 10
Conakry, 163 12
Demerara, 258 14
Dunedin, 7
Ghent, 200
Gd. Bassam. 25
Lagos, 100 17
Laboo, 25
Melbourne, 25
Muculla, 16 16
Para, 312 10
Rangoon, 568
Rotterdam. 150
St. John's, N.B., 556
Salt Pond, 40
Sierra Leone, 50
Trinidad, 16 12
Wilmington, 400

Salt Cake—
Copenhagen, 5 t. 7 c. £7
Pretoria, 10 7 26
Leghorn, 140 258
Baltimore, 151 1 227

Saltpetre—
Cartagena, 12 c. 3 q. £17
Valparaiso, 6 8

Soap—
Accra, 50 bxs.
Addah, 300
Alexandria, 20 cs.
Algoa Bay, 1,888 90
Amiens, 51
Attaboe. 46
Bangkok, 101
Bayin, 124
Benin, 100
Bombay, 550
Bonny, 100
B. Ayres, 1
Calcutta, 40 270 pks.
Callao. 15
C. C. Castle, 275
Cape Lahou, 65
Chama, 50
Christiania, 185 200
Colon, 500
Constantinople, 101
Copenhagen, 3
Delagoa Bay, 675 105
Curacao, 235
Demerara, 500
Dixcove. 50
E. London, 46 1
Galata, 45
Gibraltar, 20 40
Gothenburg, 150
Havre, 260
Johannesburg, 20
Iquitos, 300
Lagos, 300
Las Palmas, 78
Lucca. 30
Madras, 60
Malta, 31 166
Manaos, 180
Mauritius, 550
Para 200 1
Pt. Elizabeth, 25
Pt. Natal, 381
Pt. Said, 200
Rangoon, 500 6
Rotterdam. 640
St John's, N'fd, 20
Salt Pond, 150
Sapeli, 100
Sierra Leone, 100
Surinam, 40
Teneriffe, 524
Toronto, 200
Trinidad, 1,100
Valparaiso, 112 4
Warri, 100
Yloilo, 5 bdls.
Zanzibar, 375

Soda Alkali—
Barcelona, 150 brls.
Lisbon, 100 cks.
Para, 30
Smyrna, 42

Soda Ash—
Aalborg, 460 bgs.
Aleppo, 10 brls.
Amsterdam, 50 cks.
Antwerp, 2,300 14
Baltimore, 2,400 53 tcs.
Beyrout, 10 brls.
Boston, 400 33
Calcutta, 250 kgs. 234
Callao, 80
Constantinople, 14
Copenhagen, 880 bgs.
Genoa, 200
Ghent, 200
Gothenburg, 50 58
Hamburg, 1,865 10
Hiogo, 830
Johannesburg, 25 kgs.
Lisbon, 50
London, 86 bgs.
Mexico, 15 dms.
N York, 80 258 tcs. 102 cks.
Philadelphia, 1,520 57
Rotterdam, 720
Samarang, 51
Seville, 220
Smyrna, 50 brls.
Toronto, 80
Venice, 525
Vera Cruz, 50
Victoria, B. C., 30
Volo, 10

Soda Crystals—
Demerara, 60 brls.
Malta, 50
Petrolia, 150 bgs.
Philadelphia, 140 cks.
Valparaiso, 10 kgs.

Sodium Acetate—
Vera Cruz, 2 cks.

Sodium Bicarbonate—
Algoa Bay, 100 bgs. 20 kgs.
Ancona, 50
Antwerp, 32 37 cks.
Bari, 65 5
Batavia, 10
B. Ayres, 34 20
Calcutta, 125
Callao, 90
Christchurch, 80 bgs. 14 kgs.
Fremantle, 25
Hiogo, 1,900
Karachi, 480
Madras, 25
Malta, 14
Marseilles, 60
M. Video, 80 3
Odessa, 115
Penang, 10
Pt. Natal, 40
Rangoon, 178
Rotterdam, 25
Rouen, 86 pks.
St. John's, N.B., 500
Santander, 70
Santos, 124
Tripoli, 21
Vera Cruz, 80
Wellington, 30 bgs.

Sodium Carbonate—
Rotterdam, 50 brls.

Sodium Hyposulphite—
San Francisco, 250 kgs.

Sodium Nitrate—
Oporto, 16 bgs.

Sodium Silicate—
Sourabaya, 10 brls.

Starch—
Piræus, 20 pks.

Strontia—
Paris, 13 t. 15 c. 3 q.

Sulphur—
San Francisco, 100 t. 1 c.

Superphosphates—
Morlaix, 261 t. 1 c. 3 q.
Marseilles, 49 5 1
Bordeaux, 279 14 2
Cherbourg, 596 1 1
Genoa, 164 16 3
Alicante, 10
Malaga, 253 17
Cullera, 270 3 3
Valencia, 50 1

Varnish—
Antwerp, 18 cks.
Genoa 1 cs.
Hong Kong, 10
Lisbon, 7
Melbourne, 39 pks.
Piræus, 4

White Lead—
Bahia, 75 kgs.

Zinc Chloride—
Bahia, 2 t. 19 c.

MANCHESTER

Week ending January 19th.

Alum—
Alexandria, 10 brls.
Bushire, 10
Tripoli, 20
Tunis, 1 tcs.

Ammonium Carbonate—
Hamburg, 3 cks.
Tunis, 1 brl.

Ammonium Chloride—
Alexandria, 40 cks.
Bushire, 5
Mersyne, 2 brls.

Ammonium Sulphate—
Valencia, 5,338 bgs.

Aniline Colours—
Germany, 17 kgs. 2 brls.
Aniline Salts—
Germany, 1 ck.
Bleaching Powder—
Rio de Janeiro, 8 cs.
Carbolic Acid—
Bushire, 1 cs.
Caustic Soda—
Rio de Janeiro, 8 dms.
Rio Grande Do Sul, 100
Tunis, 35
Alexandria, 12
Copper Sulphate—
Rio de Janeiro, 1 ck.
Tunis, 8
Copperas—
Alexandretta, 45 brls.
Alexandria, 100
Dextrine—
Barcelona, 142 bgs.
Dyestuffs (*otherwise undes.*)—
Barcelona, 7 cks.
Extracts—
Rio de Janeiro, 11 cs.
Glue—
Barcelona, 19 cks.
Spain, 10
Iron Sulphate—
Rio de Janeiro, 1 ck.
Lamp Black—
Larnaca, 1 ck.
Linseed Oil—
Alexandria, 106 brls.
Bagdad, 4 cks.
Magnesia—
Tunis, 4 tcs.
Manure—
Marseilles, 285 bgs.
Paint—
Beyrout, 86 kgs. 50 dms.
Tripoli, 2 cks.
Painters' Colours—
Larnaca, 1 ck.
Potassium Bichromate—
Alexandretta, 40 cks.
Rio de Janeiro, 1
Sultanabad, 8 cs.
Bushire, 12
Potassium Carbonate—
Rio de Janeiro, 1 ck.
Potassium Chlorate—
Tunis, 2 kgs.
Pyridine—
Germany, 12 cks.
Soap—
Malta, 1 bx.
Tunis, 9 cs.
Soda Crystals—
Jaffa, 7 brls.
Sodium Bicarbonate—
Jaffa, 2 brls.
Tar Oil—
Germany, 1 dm.

GLASGOW.

Week ending January 20th.

Alkali—
Philippine Is., 6 t. 11 c.
Yloilo, 14 18¾
Ammonia (Liquid)—
Manila, 1 t. 15 c.
Ammonium Carbonate—
Christiania, £10
Ammonium Sulphate—
Havre, 255 t. 9¾ c.
Cape Town, 5
Carbolic Acid—
Rotterdam, £105
Coal Products—
Benzol
Hamburg, 15 t. 17 c.
Creosote Oil
U.S.A., £73
Pitch
Havre, £437
U.S.A., 35
Tar
Penang, £279
Singapore, £425 10s.
Straits Settlement, £50
U.S.A., 43
Bombay, £152 10s.
Tar and Pitch
Madras, £64
Extracts
Boston, £666
Canada, 63
Spain, 141
U.S.A., 210
Lead Acetate—
Bombay, £51
Linseed Oil—
Canada, 10 t. 18¼ c.
Philippine Is., 2 10¾
Logwood—
Oporto, £101
Madder—
Calcutta, £33
Manure—
Nantes, 10 t. 5⅛ c.
Paint—
Bergen, 16 c.
Philippine Is., £170
Painters' Colours—
Brisbane, £141 15s.
Bundaberg, £52
Calcutta, qty.
Rockhampton, 101
Mauritius, "
Manila, "
Oporto, 46
Yloilo, "
Paraffin Wax—
Cape Town, £67
Potassium Bichromate—
Bombay, £38
Hiogo, 100
Amsterdam, 2 t. 18 c.
Rotterdam, 2 9
Yokohama, 382
Oporto, 152
U.S.A., 647
Antwerp, 422
Salt—
Brisbane, 288 t. 8 c.
Sheep Dip—
B. Ayres, £135
Soap—
Puerto Cortes, 2 t. 1⅛ c.
Sodium Bichromate—
Amsterdam, 2 t. 4 c.
Antwerp, 4 11¾
Ghent, 5 2¼
U.S.A., 9 11¼
Sulphuric Acid—
Straits Settlement, £45
Superphosphates—
Cape Town, 30 t.
Tallow—
Rotterdam, 3 t. 18 c.
Oporto, 1 1
Treacle—
Bergen, 6 t. 19 c.
Ultramarine—
U.S.A., £30
Varnish—
E. London, £26 10s.
Whiting—
Brisbane, £42

HULL.

Week ending January 15th.

Alkali—
Constantinople, 100 cks.
Ammonium Sulphate—
Danzig, 514 bgs.
Dunkirk, 200
Genoa, 200
Rouen, 100
Bleaching Powder—
Boston, 98 cks.
Danzig, 19
Carbolic Acid—
Amsterdam, 12 brls. 134 brls.
Chemicals (*otherwise undescribed*)
Antwerp, 16 cks. 4 cs.
Bombay, 630 305 pks.
Bergen, 10
Christiania, 9 4 36
Copenhagen, 1
Constantinople, 40
Danzig, 213
Drontheim, 17
Gothenburg, 1 8 52
Hamburg, 174 24 brls.
Hango, 1
Kurrachee, 547
Leghorn, 8
New York, 10 9 dms.
Odessa, 7 33
Reval, 50
Rouen, 20
Rotterdam, 11 146
Cottonseed Oil—
Antwerp, 437 c.
Amsterdam, 2,270
Bordeaux, 257
Bremen, 121
Christiania, 17
Copenhagen, 85
Dunkirk, 243
Hamburg, 288
Konigsberg, 200
Kurrachee, 60
Marseilles, 703
Naples, 88
Rouen, 342
Rotterdam, 1,072
Stavanger, 11
Stockholm, 51
Creosote—
Antwerp, 30 dms.
Dyestuffs (*otherwise unaescribea*)
Danzig, 1 ck.
Stockholm, 8
Farina—
Christiania, 26 cks.
Linseed Oil—
Antwerp, 51 c.
Amsterdam, 100
Bombay, 712
Dunkirk, 17
Hamburg, 34
New York, 182
Stavanger, 28
Stockholm, 35
Manure—
Bordeaux, 600 bgs.
Dunkirk, 1,692
Genoa, 149 t.
Naphtha—
Marseilles, 30 cks.
Painters' Colours—
Antwerp, 9 cks. 7 cs. 2 dms.
Bordeaux, 39
Bombay, 122 260 1,296 pks.
Bremen, 1
Bergen, 1
Christiania, 1 4 dms.
Copenhagen, 3
Constantinople, 2
Danzig, 6
Dunkirk, 51
Hamburg, 10
Harlingen, 1
Hango, 1
Marseilles, 5 pks.
Naples, 15
Odessa, 64
Rouen, 6
Rotterdam, 1
Stockholm, 1
Paraffin Wax—
Hango, 20 cks.
Libau, 50 bgs.
Pitch—
Antwerp, 92 t. 48 bls.
Plumbago—
Stockholm, 26 cks.
Salt—
Bergen, 99 bgs.
Soap—
Stockholm, 15 cs.
Tallow—
Amsterdam, 8 cks.
Bombay, 2 cs.
Stockholm, 30
Tar—
Amsterdam, 3 cks.
Dunkirk, 1 dm.
Marseilles, 10
Treacle—
Bergen, 5 cks.
Drontheim, 25
Turpentine—
Dunkirk, 1 dm.
Varnish—
Antwerp, 6 cks. 4 cs.
Bordeaux, 2 1
Bombay, 1
Dunkirk, 3 tins

TYNE.

Week ending January 15th.

Alkali—
Amsterdam, 38 t.
Rotterdam, 2 19 c.
Christiania, 1 11
Ammonium Carbonate—
Seville, 10 c.
Antimony—
Rotterdam, 5 t.
Barium Binoxide—
Antwerp, 10 t. 14 c.
Barium Carbonate—
Copenhagen, 2 t. 11 c.
Barytes—
Hamburg, 10 t.
Bleaching Powder—
Amsterdam, 18 t. 9 c.
Bergen, 11 10
Rotterdam, 16 7
Copenhagen, 5 1
Antwerp, 122 7
Gothenburg, 71 10
Christiania, 5 6
Caustic Soda—
Amsterdam, 8 t. 14 c.
Rotterdam, 20
Antwerp, 14 4
Bergen, 1 3
Gothenburg, 64 14
Christiania, 3
Fluor Spar—
Gothenburg, 52 t. 10 c.
Linseed Oil—
Havre, 3 c.
Litharge—
Amsterdam, 11 c.
Antwerp, 1 t. 3
Magnesia—
Hamburg, 2 c.
Antwerp, 8
Manganese—
Antwerp, 3 q.
Manure—
Jersey, 193 t.
Guernsey, 40
Paint—
Antwerp, 8 t.
Soda—
Amsterdam, 38 t. 13 c.
Rotterdam, 45 3
Hamburg, 44 2
Seville, 3 5
Soda Ash—
Gothenburg, 70 t. 6 c.
Sodium Sulphate—
Trondhjeim, 653 t. 18 c.
Sulphur—
Gothenburg, 25 t.

GOOLE.

Week ending January 12th.

Chemicals (*otherwise undescribed*)
Hamburg, 34 dms.
Coal Products (*otherwise undes.*)—
Amsterdam, 2 cks. 20 dms.
Boulogne, 57
Ghent, 2 1 cs.
Hamburg, 1
Rotterdam, 122
Colours—
Amsterdam, 3 cks. 1 cs.
Antwerp, 3
Boulogne, 6
Rotterdam, 4
Dyestuffs (*otherwise undescribed*)
Amsterdam, 1 ck.
Manure—
Bruges, 100 bgs.
Pitch—
Antwerp, 6 6 t.
Dunkirk, 265
Soap—
Ghent, 13 cks.

GRIMSBY.

Week ending January 15th.

Ammonium Sulphate—
Hamburg, 1,000 bgs.
Caoutchouc—
Malmo, 1 ble. 1 cs.
Chemicals (*otherwise undescribed*)
Antwerp, 18 kgs.
Dieppe, 11 cks. 9 cs.
Rotterdam, 500 bgs. 5
Coal Products (*otherwise undes.*)—
Dieppe, 30 cks.
Rotterdam, 25
Colours—
Antwerp, 1 ck.
Malmo, 1 cs.
Rotterdam, 1 14 pks.
Pitch—
Antwerp, 50 t.

PRICES CURRENT.

WEDNESDAY, JANUARY 26TH, 1898

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 % and 40 %	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	0	11
Sulphuric (fuming 50 %)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	21	0	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	2	6
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	33/-	&	31/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	10	5	0
„ „ (grey) Hull	„	10	3	9
Aniline Oil (pure)	per lb.	0	0	6½
Aniline Salt „	„	0	0	6
Antimony	per ton	30	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	6	0	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	3½
„ 50/90 „	„	0	1	5
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7¼
„ (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8½
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	2	18	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	0	0
„ Sulphate	„	17	0	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	12	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	5
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	9
„ „ Miscible, 60° O.P	„	0	3	7
Oils:—				
Cotton-seed	per ton	15	0	0
Linseed	„	16	10	0
Stearine	per ton	22	0	0
Phosphorus (yellow)	per lb.	0	2	0
„ (red)	„	0	2	9
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	4¼
„ Carbonate, 90% (ex ship)	per ton	16	5	0
„ Chlorate	per lb.	0	0	3½
„ Cyanide, 98%	„	0	1	2
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	10	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2 3/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton, f.o.b. w'ks.	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ f.o.b. w'ks.	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ f.o.b. w'ks.	4	0	0
„ „ (Alkali) 58 %	„ „ f.o.b. w'ks.	3	17	6
„ „ (Soda Crystals)	„ „ f.o.b. w'ks.	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4¼
„ Borate (Borax)	net, per ton.	13	0	0
„ Bichromate	„ per lb.	0	0	3⅝
„ Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton, 10 ton lots	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ 10 ton lots	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ 10 ton lots	7	2	6
„ „ (60 % Caustic Soda)	„ „ „ 10 ton lots	6	2	6
„ „ (pure liquor 90° Tw.)	„ „ „ 10 ton lots	3	12	6
„ 77/78 % powdered (99 % hydrate)	„	12	5	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
„ Nitrite, 98 %	per ton	26	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow (Beef)	„	18	10	0
Tin Crystals	per lb.	0	0	4¾
„ English Ingots	per ton	66	0	0
Zinc (Spelter)	„	18	0	0
„ Chloride (solution, 100° Tw.)	„	5	15	0
„ Sulphate, Crystal	„	5	15	0

THE

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their nams, and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

BORACIC ACID AS A PRESERVATIVE.

THE use of boracic acid as a preservative in butter and milk has constantly been dealt with by health reformers and others, but up till recently little has been done to test the legality of adding this substance. The test case which was heard at Pontypridd recently has, however, thrown some light on the matter from a legal point of view. The butter in question contained 63 grains of boracic acid, and the magistrates fined the seller £5. and costs, making £10. in all. Judging by the evidence, it would seem that this decision was arrived at mainly because, in the opinion of the Bench, the amount used was excessive.

As matters stand at present, it is not easy to say on what grounds magistrates should either convict or acquit. The use of preservatives is desirable for many reasons; at the same time, the use of large quantities of boracic acid in an article like butter, which is so regularly and extensively taken into the system, can hardly be encouraged.

The most unfortunate part of the whole question appears to be that little is known about the influence which small but constant doses of boracic acid have upon health. Ten to fifteen grains was held by some of the medical witnesses to be harmless, but they would not commit themselves to an opinion on its action when taken for a long time without intermission. It was generally held that more than 20 grains could not be employed with safety, and, as regards the amount required, even in hot weather, to duly preserve the butter, 35 grains was named by Dr. Stevenson as a maximum. In the face of this, 63 grains per pound certainly seems an unjustifiable amount.

The position of affairs, however, is by no means satisfactory. In answer to the argument that 10 to 15 grains may be innocent in itself, though not when applied constantly, it may be pointed out that small quantities have long been used for preserving butter, and, so far, the medical faculty have not been able to adduce any evidence that it acts injuriously. Were this otherwise, surely such evidence would have been brought to bear in the Pontypridd case. On the other hand, an excessive use of boracic acid ought undoubtedly to be discountenanced.

Under these circumstances, cannot either the Society of Public Analysts, or Somerset House, determine by experiment what is the actual amount required to ensure preservation, under reasonable conditions, and thus fix a limit, for exceeding which magistrates can unhesitatingly convict and *vice versa?* Adopting this course need not prevent the limit being reduced if medical evidence subsequently proves that the use of the maximum amount fixed on, really does injure health.

A DANGEROUS INNOVATION.

For some time prizes for research work bearing upon the Kinetic Theory of gases have been advertised. The main object in thus advertising seems to have been a desire to evoke testimony antagonistic to this theory; and the statements of Thomson, Tait, and Lord Kelvin there anent, have, with due respect, been challenged.

It now appears that the Argentaurum Syndicate is about to establish a research society, the underlying principles of which will be freedom of thought. It is sought to form a school of philosophy, based solely on the *facts* of Nature. To facilitate the exchange of ideas a journal will be published from time to time, and sent *gratis* to all members of the Society and others who may desire it. No "editorial lordship" is to be exercised upon the contributions. What is more, the Society will undertake researches, which will be entrusted to members upon terms to be agreed upon in each particular case. Any discoveries of commercial value that may result are to be exploited for the joint benefit of the discoverer, the Society, and person who defrayed the cost of the research in the first instance.

Now we have no objections to raise to any of these proposals, and, as far as we can see, they are commendable on some grounds, but it is proposed to grant a certificate of fellowship to "any duly qualified person" who writes to the President of the Research Society. The fellows pay no fees and incur no responsibility, but it seems that those who will be deemed eligible will have to do some "philosophical work of substantial value in aiding the progress of knowledge." If, therefore, the President considers the testimony sufficient, the said person is to be made a Fellow of the Society, "without being subject to election or to any official whim." Thenceforward, we take it, there is nothing to prevent the said person signing himself Robinson Brown, F.R.S.

Now the real F.R.S. is the blue ribbon of the scientific world, and it is the only other combination of letters, besides F.I.C., which is acknowledged by the Institute of Chemistry. We contend, therefore, that the establishment of such a dangerously confusing title should not be permitted without a strong protest. Even the F.R.S. Ed. in the hands of the lay press is liable to cause confusion, as for instance on a company prospectus, where it is often convenient to forget the Ed. and blame the printer. How much greater, therefore, will the temptation to deceive be if F.R.S. (Fellow of the Research Society) is allowed to pass into use unchallenged?

SULPHATE OF AMMONIA EXPERIMENTS AT DALMENY.

For several years the Earl of Rosebery has had in progress on his estate at Dalmeny, West Lothian, a series of well-arranged field experiments, the main object of which has been to ascertain what methods of cultivation and manuring may be most profitably pursued in the case of the staple crops of British agriculture. The results so far attained have more than warranted the outlay that has been incurred, whilst they have at the same time furnished useful object lessons—and this is a point which is constantly kept in view—to the tenant farmers of the estate. Last week the annual inspection of the experimental grounds took place, and Mr. A. L. Drysdale, Lord Rosebery's agent, availed himself of the opportunity to give details of the results of the experiments made in the season of 1897, these results being announced as soon as possible after the completion of the extensive series of chemical analyses which had been rendered necessary. It should be explained that the soil on which the experiments are in progress was at the outset in good condition, and that no attempt was made to reduce this condition, as the object sought was not the establishment—or, it might be said, the demonstration—of scientific truths, but the ascertaining of what method of treatment would prove most profitable upon the class of soil under trial. Nowhere probably in Great Britain can there be found a greater extent of fertile soil than that which stretches through the Lothians from Dunbar to Linlithgow. As Mr. John Clay, a member of the recent Royal Commission o Agriculture, who formed one of the party of inspection, remarked, in turning over the soil, "This is something very different from the Essex clays." The experimental soil at Dalmeny, though a good loam, does not represent the best land of the Lothians, though it is better by far than any land that can be found on thousands of farms in agricultural England.

For the hay experiments which were carried out last year 17 plots of one-third acre each were maintained in field cultivation. The land was in good condition, having received 30 tons per acre of well-rotted farmyard manure in 1894 and grown a wheat crop in 1895, followed by a barley crop in 1896. The grass seeds were sown in the barley, and the crop was harvested as hay in 1897. The plots were variously dressed with artificials, but certain plots intended to serve as control or checked plots received none. The crop on each plot was weighed as hay, and the best result was obtained after a dressing of 1cwt. of superphosphate of lime and 2cwt. of sulphate of ammonia per acre. The profit, after allowing for cost of fertilizers, was £1. 15s. per acre over the unmanured plots. The first cutting yielded 3 tons and the second 1¼ ton per acre. A similar experiment, in which nitrate of soda was substituted for sulphate of ammonia as the source of nitrogen, gave a somewhat less favourable financial result. In addition, moreover, the quality of the hay from the sulphate plots was throughout superior to that from the nitrate plots Hence, it is concluded that for land such as this, in good condition, and situated in the valley of the Forth, sulphate of ammonia and superphosphate form an effective mixture of artificials for promoting the growth of hay

In the turnip experiments the variety of turnip grown was the Aberdeen Yellow Bullock. The drills were 2 feet apart, and the roots were thinned out at 9 in. The land had received 35 tons of dung per acre and grown a potato crop in 1895, followed by barley in 1896. The condition of the soil is shown by the circumstance that the plots unmanured in 1897 yielded 24 tons 8 cwt. of turnips per acre. The best result—31 tons 8 cwt. of dressed roots and 3 tons of shaws per acre—was obtained from a dressing of 4 cwt. of superphosphate, 6 cwt. of lime compost, and 1 cwt. of sulphate of ammonia, at a cost of 22s. per acre. The lime compost would contain about one-third of its weight of lime. The profit in using this mixture, as compared with the unmanured land, was £2. 8s. per acre. Where sulphate of ammonia was replaced by its equivalent in nitrate of soda, the yield of roots was less; whilst chemical analysis showed them to be somewhat inferior in quality. In experimenting upon finger-and-toe in turnips—a destructive disease associated with the presence of a slime fungus, *Plasmodiophora brassicæ*—resort was made to the bold expedient, for the purpose of testing a certain course of treatment, of sowing turnips again upon land where the crop had been nearly destroyed by the disease in the preceding year. The dressing adopted was 1 ton of freshly-ground lime per acre immediately before ploughing in the autumn, 1 ton of ground lime in the spring, and 8 cwt. of kainit per acre sown in the drills. So efficacious did this dressing prove that the crop grown under its influence was practically free from the disease. It was found, however, that the use of superphosphate, or of any other manure in the production of which sulphuric acid is employed, had a detrimental effect, and favoured rather than discouraged the development of finger-and-toe.

Potato culture has been carried to a high level of success at Dalmeny, where some of the newest and most approved varieties of tubers are now being grown with a view to their ultimately being put on the market. In the potato experiments, as in those with hay and turnips, the comparative merits of sulphate of ammonia and nitrate of soda were again put to the test, and resulted in favour of the ammonia salt. As in 1896, so in 1897, it was demonstrated that where land has been well dunged, and is consequently in good condition, potash salts—as supplied, for example, in kainit—are not required. As to the "seed," it appears to be better to plant good-sized whole tubers than to cut the tubers into sets. For first or early crops the tubers should never be cut.

We have glanced at only a portion of the experimental work in progress at Dalmeny, but nobody can visit the spot without feeling that Lord Rosebery has taken an important matter in hand, and one such as should specially commend itself to a man of public spirit. The business-like way and easily-comprehensible fashion in which Mr. Drysdale has arranged the investigations deserve recognition, whilst the skill which Mr. John Hunter has brought to bear upon the chemical interpretation of the results adds greatly to their value. It is gratifying to know that these experiments are to be continued, and it can hardly be doubted that they will increase in interest and importance.

Down on Gasoline.—The Iowa State Oil Inspector has filed the biennial report of the State Department of oil inspection with Governor Drake, showing that during the term 672,972 barrels of oil were inspected. Over 185,000 barrels of gasoline were refused approval. This is the last report of the State Oil Inspector, as the last Legislature abolished the office and placed the work of the department in charge of the State Board of Health.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Water Absorbing Explosives. J. Plummer. 1,339. January 18.
Manufacturing Cements. P. M. Justice. 1,378. January 18.
Manufacture of Pigments. F. S. D. Scott and T. Hawkins. 1,384. January 18.
Fractionating and Cracking Mineral Oils. V. T. Ragosine. 1,411. January 18.
Alloys. L. Bonneville. 1,427. January 18
Double Superphosphates. G. O. J. Schüller. 1,435. January 18.
Manufacture of Soap. C. Pitcairn. 1,508. January 19.
Separating and Purifying Waste Acids. J. Sharp, 1,542. January 19.
Treating Zinc Ores. S. O. Cowper-Coles. 1,534. January 19.
Apparatus for Manufacturing various Gases. J. B. M. M. Guthrie and J. H. Hughes. 1,591. January 20.
Separating Solids, etc., from Sewage. W. Pearson. 1,615. January 20.
Electrolytic Treatment of Bleaching Liquids. M. Haas. 1,697. January 21.
Improved Disinfectant. E. Fournier. 1,723. January 21.
Oxidising Oils. S. G. Rosenblum and the Commercial Ozone Syndicate, Ltd. 1,761. January 22.
Apparatus for Producing Calcium Carbide. J. W. Kelly and H. Roantree. 1,819. January 22.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Process of Recovering Zinc from Zinciferous Gases in the Distillation and Smelting of Zinc. A. M. Clark, 53, Chancery-lane (communicated by R. H. T. Biewend, of Clausthal, and the A. G. für Zink Industrie, vorm W. Grillo, of Neumühl-Hamborn, Germany. Eng Pat. 30,152. Dec. 31, 1896.

The features of the process are that the access of water, steam, air, or carbon dioxide to the zinciferous gases is avoided. The temperature of the gases is not allowed to fall below 450° C. It is impossible to prevent a certain amount of zinc being deposited as dust, at the far end of the condenser; but by reversing the travel of the gases, as the inventor proposes, the hot gases re-volatilize the zinc. The system is described with unlimited verbosity, both as applied to the vessel distillation and the shaft furnace processes. There are eight figures.

Improvements in Valves, more especially adapted for use in Self-discharging Saturators used in the Manufacture of Sulphate of Ammonia from Gas Liquor or Ammoniacal Liquor. H. Howell, Midland Ironworks, Donnington, Shropshire. Eng. Pat. 4,095. Feb. 15, 1897.

The valve consists of a casing or cylinder in which a plug or piston is worked by a suitable screw and hand-wheel. The edges of the plug are sharp and so constantly scrape off any crust, etc., that might accumulate on the inside of the cylinder. There are three figures but it is not easy to see where the novelty comes in.

Improvements in the Treatment of Sea-weed and the like for the Production of Iodine and other useful Products. A. James, l'Hede Bréhat (Côte du Nord), France. Eng. Pat. 422. Jan. 6, 1897.

The treatment varies according to whether the sea-weed is fresh or dried. With fresh sea-weed the iodine is extracted with sea water, to which sufficient quicklime has been added to precipitate all the magnesia and give a distinctly alkaline re-action. Two washings are generally enough. Ferrous sulphate is then added to coagulate the mucilaginous matter. The clear solution obtained by this treatment is run into vats provided with agitators, in which it is neutralized with sulphuric acid. The iodine is then liberated with nitrous-nitric acid or other suitable re-agent such as per-sulphate of ammonia. The extraction of the iodine thus liberated is effected by the addition of petroleum. The dissolved iodine is finally separated by agitating the petroleum with weak soda lye, thus forming iodide and iodate in solution in a small quantity of water. The iodine is then precipitated by chlorate of potash and hydrochloric acid, and filter pressed. The only difference in the treatment of dried weed is that a greater volume of sea water is employed in leaching; lime is substituted for ferrous sulphate as a precipitant; hydrochloric acid is substituted for vitriol in neutralizing; and a greater proportion of petroleum is used as a solvent for the free iodine.

An Improved Process of Deodorizing Oils and Fatty Substances. Dr. C. Culmann, 23, Alter Gröningerstrasse, Hamburg. Eng. Pat. 26,191. Nov. 10, 1897.

Instead of the usual heating and washing processes for deodorizing fish oils, &c., the oil is heated to about 108°C., and 2-4 % of a cold saturated solution of alum added. The whole is then blown with steam superheated to 110°C., for two hours. On allowing the mass to settle, the oil soon separates, forming no emulsion. It is kept at 80°C., when the final product will readily settle, and leave a perfectly limpid and clear oil, which does not develop any bad smell on warming, as many other treated fish oils do.

Improvement in the Production of Zinc Blende and other Ores, and Recovery of the lead with other Metals therefrom. H. R. Angel, 7 St. Helen's-place, London. Eng. Pat. 1,034. Jan. 14, 1897.

The ores are mixed with sulphate of soda and small coal and then calcined on an open hearth, taking care the flame does not come into contact with the charge. The greater part of the silver and gold is tapped out, and the volatile metals condensed in separate chambers. The rest of the precious metals are extracted by adding galena to the molten slag. With imperfectly roasted ores enough zinc oxide to carry off the sulphur is added. The zinc is collected, and can be used over again. With well-roasted ores about 5 % of lime may be added.

SULPHUR CHAMBER FATALITY AT LEEDS.

THE Leeds City Coroner opened an inquest on Tuesday at Hunslet, into the circumstances attending the death of Jacob Illingworth Pickard (46), blanket stover, 5, Savage-street, Hunslet, who died on Sunday last at his home from the effects of a rather singular adventure. —At the outset the Coroner said he only proposed to take evidence of identification, and then to adjourn the inquiry for a week. It was a case that came within the cognisance of the Factory Inspector, who was unable to be present. The Home Office authorities are contemplating issuing fresh orders as to the conduct of these places, and it was therefore important that the whole of the facts should be fully inquired into.

It appears that Pickard had been in the employ of Messrs. M. Oldroyd and Sons, blanket manufacturers, of Goodman-street, for over twenty years, and it was part of his duty to light the sulphur stoves for the purpose of bleaching. On the night of Wednesday, January 19th, when he was about to go home, he went to the bleaching-houses, accompanied by a man named John Brook, for this purpose. Brook was not the man who usually went with him, and was not well acquainted with the business. Going into the first room, Pickard told Brook to fasten the door after him, and turn off the gas jet outside. His intention was to light the two sulphur stoves which were placed in the far corner of the room and leave the place by the other door, which he expected would be open, as usual. It had been the custom of the man who usually assisted in this work to wait for Pickard, and then the two would leave the premises together. Brook was not aware of this practice, and when Pickard did not come round to meet him he concluded that the man had gone out of the other door and left the premises. Unfortunately, too, he suffered from deafness, and did not hear the shouts and knocking of his companion, who found himself imprisoned in the room. He accordingly went away, believing that Pickard had also gone

The latter was, however, in a terrible predicament. When he had lighted the two stoves, he remembered that early in the day he had caused the other door to be fastened on the outside, and was thus a prisoner. He could have easily extinguished the sulphur stoves at that time, and might have remained in the room without danger till relieved, but, instead of doing so, he spent his time in endeavouring to attract attention. The sulphur fumes soon filled the place, but even then it did not occur to him that he could put out the stoves by means of one of the blankets in the room. He next tried to reach an aperture above the door by means of a rope and a plank, but it was only a small one, about 4 in. or 6 in. in width, and was covered on the outside by a strip of wood. Eventually he became quite exhausted, and lay on the floor near the door by which he had entered, getting sufficient fresh air through the aperture to preserve consciousness till he was rescued at 10 o'clock, after an imprisonment of four hours. This was brought about by a search that was instituted by his son, who, accompanied by the watchman, William Black, went to the door of the room in which the unfortunate man was confined. Pickard could see the flicker of the watchman's lamp under the door, and with his little remaining strength he knocked again. The door was opened, and he was found lying on the threshold. He was taken out into the open air, and eventually revived sufficiently to walk about.

It is mentioned that even after his terrible experience, Pickard, remembering that he had not lighted the stoves in the other bleaching-houses, actually went into each of them and completed his work. He afterwards managed to walk home, and was medically attended, but died on Sunday.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

THE COLOUR INDUSTRY.

(To the Editor of the Chemical Trade Journal.)

SIR,—The article on the production of colours in your last issue, page 92, is interesting, and there is no doubt but that Germany has by far outstripped England in this industry, but I think it should be remembered that in the United Kingdom, colour makers cannot obtain pure methyl while the colours produced by the use of such pure methyl are freely admitted.

In olden time it was asked of whom do the kings of the earth take custom and tribute, of their own children or of strangers; but we have changed all that, for we tax our own children and let the stranger go free.—Yours etc.,

B. BIGGS.

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

THE fourth meeting of the session of the above section was held on Wednesday, January 26th, at the Queen's Hotel, Burton-on-Trent, when there was a fair attendance. Mr. James O'Sullivan occupied the chair, and amongst the members present were Dr. Adrian Brown, Dr. Stanley Kipping and Messrs. Adams, Caven, Carulla, Golding, Lott, J. T. Wood (hon. sec.), etc. Mr. J. Golding read a paper which was in the nature of a lecture entitled "Notes from some of the technical laboratories of Copenhagen," illustrated by lime-light views, the majority of which had been taken by himself from actual objects on the spot. In this way a most enjoyable hour was spent, which must have been peculiarly interesting to the Burton members and visitors, as many of the views and descriptions were connected with the brewing industry.

Jorgensens' laboratory, a private house converted for the purpose, is an institution fully equipped for bacteriological research, and the precautions taken for sterilising the inoculating chamber were fully described, a solution of mercuric chloride being employed for the purpose. The professors and demonstrators at this and similar schools are able to lecture in at least four languages, viz., German, French, English, and Danish. Some of them can also speak Russian, a circumstance that explains the cosmopolitan character of the students, who are attracted to Copenhagen from all parts of Europe. Views of the celebrated Carlsbad brewery were also shown, the statue of Jacobsen being frequently a prominent object in the foreground. The interior of the laboratory in which Kjeldahl works, with the professor himself forming part of the picture, gave occasion for some reference to the well-known process for the estimation of nitrogen that bears his name. Mr. Golding stated that in his own practice he found sulphate of potash preferable to permanganate which Kjeldahl still employs. Mr. Golding also finds that the use of a copper or tin vessel to generate steam, which is conducted into the flask in which the nitrogen operation is performed, is a better way than to directly heat over the flame the substance to be decomposed even though this be done in a copper flask. The lecturer referred to the practice of the Danish laboratories of issuing publications of the work done in them, jealously guarding the possibility of anything appearing in other journals before its publication in their own. This is a practice also followed in America, where the number of local "Bulletins" is legion, with the result that in order to get full particulars of the work done by others on some special subject one has to search through an immense mass of publications, some of which are not always obtainable. He could not help thinking that this was a method of publication that wasted much effort, but apart from economy it seemed to defeat its object by not securing the desired publicity.

The Agricultural Research Station, at which Professor Storch is resident, afforded much interesting matter. Mr. Golding, who at a recent meeting had described a reflux condenser used at this station (*C.T.J.*, Dec. 4th, 1897), now showed the actual apparatus, having only that day received it. He explained that the cake or other substance to be extracted is put into a glass cylinder open at the top and drawn out at the lower end so that it can be easily closed with a plug of asbestos or glass wool. This cylinder is slipped into the tube carrying the condenser, the whole being so arranged that a space is left between the two tubes for the other vapour to pass freely on its way to the condensers at the top. (See *Jl. Soc. Ch. Ind.*, Vol. xvi., p. 979, fig. 3.)

For the absorption of milk, powdered kaolin is preferred to paper by the Danish chemists as being absolutely free from any trace of fat. A very convenient basic standard solution for titration purposes in very general use in these laboratories is lime water, which has been found to be $\frac{1}{20}$th normal in strength. It varies within very small limits, which have been ascertained, according to the temperature. It has the great advantage that by always keeping an excess of lime in the store vessel the supernatant clear liquid is always of the right strength, and further that what CO_2 the liquid absorbs is precipitated the corresponding amount of lime to that withdrawn going into solution. The fact that the preparation of this solution requires no weighing should commend it to industrial laboratories.

The beneficial effect of scientific control on farming operations was well illustrated by the description of the work carried on at the Butter Exhibition. Tubs of butter are taken hap-hazard from the dairies by proper inspectors and sent to the exhibition, where they are first tested for water by being allowed to drain a certain length of time. When first this exhibition was instituted, considerable quantities of water were thus obtained, but now they hardly get any at all. Previous to the admission of the judges, the sides of the tubs are covered with cylindrical tins, so that it is impossible to recognise their origin, and it is believed that the awards of the judges cannot in any way be prejudiced. Some of the butter is *tested* besides being *tasted*, and the exhibition is then thrown open to the public. Mr. Golding concluded his interesting remarks by an account of the Veterinary and Agricultural School, at which the bacillus that causes abortion in cattle is said to have been discovered.

Mr. Mathews opened the discussion by asking whether any special precautions were taken in Jorgensen's laboratory to prevent the general dust of the rooms from contaminating the cultures under observation. He also stated that he found no difficulty in keeping barium hydrate solution perfectly transparent and reliable for titration purposes.

Mr. Oswell failed to see what advantage was really derived from the use of kaolin for milk absorption, he having found paper to answer very well.

Dr. Adrian Brown asked whether Kjeldahl used mercury as well as permanganate in the estimation of nitrogen.

Dr. Stanley Kipping said that in the Kjeldahl process, a few small pieces of paraffin put on the surface of the liquid prevented frothing. He thought the notes they had listened to were very interesting, and the only regret he had was that in Copenhagen they should be so advanced whilst here we have no such institutions in the midst of our industries. He hoped the excellent example set us by the Danes would be emulated in the Burton district. He felt sure that the authorities of University College would gladly co-operate in any such work. (Applause).

Mr. J. T. Wood said the use of a standard solution of lime water has been well known in tanning laboratories for some years. Professor Procter, of Leeds, first published it in 1885.

Mr. Golding, in his reply, said that the inoculation experiments are done in chambers which are only used for work of the kind. Jorgensen's laboratory having been originally a private house is not, of course, like a laboratory built for the purpose. Nevertheless he believed that the precautions taken, such as the constant washing of floors with carbolic acid were sufficient to prevent contamination by the general dust. The reason for using kaolin for milk absorption no doubt was the great desire for extreme accuracy, the results being worked out to four places of decimals. The kaolin can be heated so as to get rid of every trace of fat. In regard to the lime solution he was not aware that it was used in leather laboratories, but he certainly had not seen it employed in any agricultural laboratory in England with which he was acquainted, and for which he thought that solution was eminently adapted. Kjeldahl did use mercury in the nitrogen estimations.

The thanks of the meeting were informally but most heartily conveyed to Mr. Golding by the applause that followed, after which the discussion was resumed on R. M. Caven's and Alfred Hill's paper on "The Estimation of Cuprous Oxide by means of Standard Potassium Permanganate Solution." (*C.T.J.* Dec. 25, 1897.)

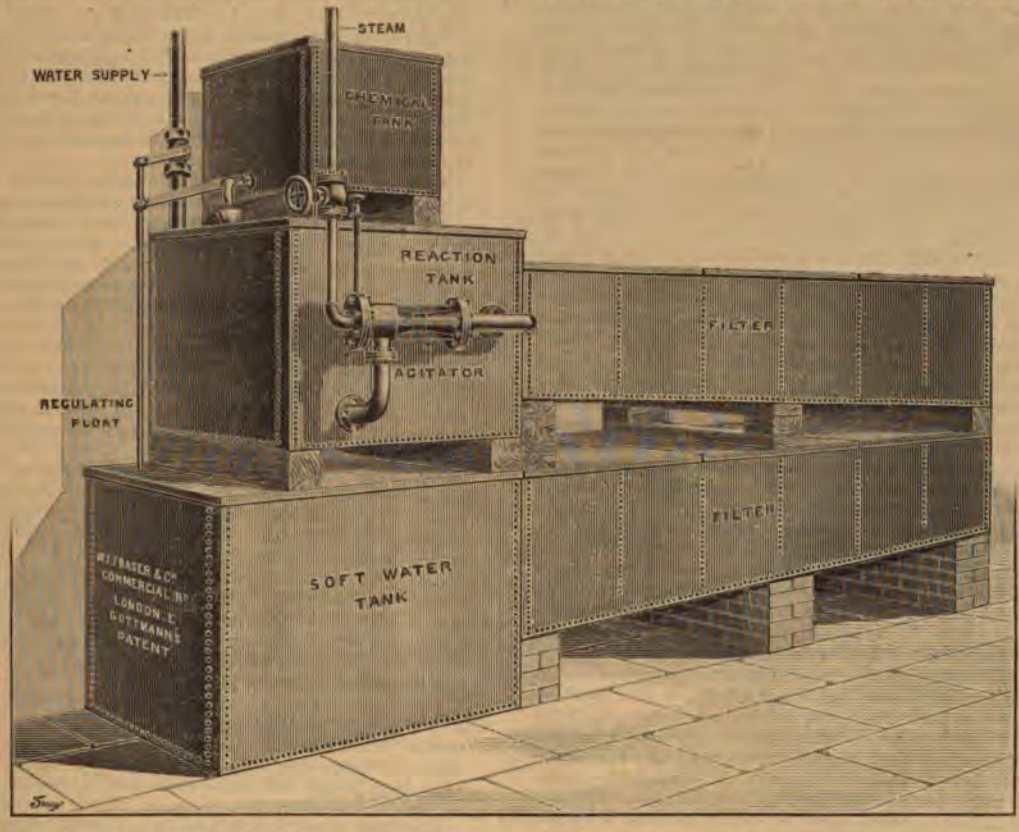
Mr. Caven, having opened the discussion, Dr. Kipping said: I have had the good fortune of seeing the process in operation, and I can certainly testify to its great rapidity and simplicity. The operations themselves are exceedingly simple, and the end reaction is extremely delicate. The blue colour is so slight that it does not affect the delicacy of the end reaction. It should be at any rate better than the method by which the copper oxide is weighed. After the reply of Mr. Caven to the remarks of other speakers, the meeting terminated.

COMPANY MEMS.—Under the Companies' Act (1880) Regulations, the British Arsenic Mines, Ltd., has been struck off the register. Under the regulations of the same Act, after three months from Jan. 28th, the following companies will be struck off the register unless cause is shown to the contrary:—Antimony Concessions Syndicate, Ltd.; Canadian Phosphate Co., Ltd.; Caustic Soda and Chlorine Syndicate, Ltd.; Continental Oxygen Co., Ltd.; Dan Dawson Bros., Ltd.; Fish Guano, Ltd.; Harris' Oil Refining Co., Ltd.; Kent Bone and Tallow Co., Ltd.; Peat Utilization Co., Ltd.; Schull Copper Syndicate, Ltd.; Stanley Paper Fibre Co., Ltd.; and the West of England Smelting and Refining Co., Ltd.

GUTTMANN'S WATER-SOFTENING APPARATUS.

THE illustration below represents an apparatus suitable for a 100 nom. h.p. steam boiler, and for softening up to 1,000 gallons of water per hour for laundry and other purposes.

The action of the apparatus is very simple. It is practically as follows:—The quantity of carbonate of soda (alkali) required for one day's work is put into the chemical tank; warm water is then run in and the alkali dissolves. In the cistern for storing softened water a float is placed which, as the soft water is pumped into the boiler, falls, and opens the cocks for the admission of hard water and alkali solution. The tap for the alkali solution can be regulated to suit the quantity of hard water used during the day. The mixture of hard water and alkali enters the reaction tank, where a steam agitator maintains it at a temperature close to boiling point; at the same time thoroughly agitating it. The water then passes down an overflow pipe through the filter tank, which consists of a series of compartments alternately connected at the top and the bottom, and filled with wood wool. From the last compartment the soft water runs perfectly clear into the storage cistern. When the filtering medium requires cleaning it is taken out from one compartment at a time, rinsed in cold water in a tub. The plug at the bottom of the compartment is opened for cleaning out, when the wood wool can be put back again.



The apparatus works quite automatically, and requires no attention or labour, except to fill the chemical tank every morning. It can be used for any process of water softening, whether lime, caustic soda or other chemicals are employed.

East London water is being treated in a Guttmann's apparatus for a 40 nom. h.p. Babcock and Wilcox boiler, with the following results:—

	Hard water grains per gal.		Softened water grains per gal.
Temporary hardness ..	14·2	...	3·7
Permanent ,, ..	3·1	...	none
Total ,, ..	17·3	...	3·7

Of the 3·7 grains per gallon, 2·7 grains are further precipitated by prolonged boiling in the boiler itself. The remaining 1·0 grain represents the solubility of calcium and magnesium carbonates.

The result during twelve months' trial was no scale whatever in the boiler, only the lower range of tubes having a thin layer of loose deposit, which, by a jet of water from a hose pipe, was easily removed. The consumption of alkali was 2 oz. per 1,000 gallons of water for each degree of hardness, which costs only 1d. A 40 nom. h.p. steam boiler evaporates on an average 2,500 gallons of water per day of 10 hours; the cost of alkali for softening the feed water is therefore 2½d. per day. The apparatus requires cleaning out about once a month only, and this can be done whilst it is working. The filtering material is used again, and does not require renewal for years. The cost of this apparatus is considerably less than other types of water-softening apparatus, and it can be adapted to suit any convenient position. The filter tanks may be arranged in one or more tiers, either horizontically or vertically as most convenient. Prices of any particular size of apparatus can be obtained on application to the manufacturers—Messrs. W. J. Fraser and Co., 98, Commercial-road East, London.

CHROME ORE IN NEW SOUTH WALES.

UNLESS something very unforeseen happens, there appears to be a fair future for chrome ore properties in New South Wales, of which there are a small number, some working, the majority lying fallow.

Chromium does not occur very abundantly in Nature in the free state, as may be seen from the fact that the annual production of the world is only from 70,000 to 80,000 tons, the mines of Asia Minor supplying about one-half of this amount. The mineral always occurs in serpentine rock in veins, lodes, or irregular bunches or masses, distributed through the serpentine. Low-grade ores, under the commercial standard of 50 per cent., may be concentrated up to 56 per cent. At Black Lake, Quebec, a large trade is being done in low-grade ores, which are shipped to Great Britain.

Australians consider their lodes of more than ordinary value, from the circumstance that a European war would shut off the supply from Asia Minor.

Obituary.—We regret to record the death, which occurred on Monday afternoon, of Mr. W. H. Ness, second son of Mr. Thomas Ness, chemical manufacturer, at his residence, Black Banks, near Darlington. Mr. Ness has for a period of about 15 years acted as manager for his father at the Black Banks Chemical Works, settling there shortly after his marriage. He had been ailing for some considerable time, and in May last went to Grange-over-Sands to recruit his health, but for the past six months had been unable to take any active work. Mr. Ness was 39 years of age, and leaves a widow and three sons.

Official Memoranda.

From the Board of Trade Journal.

BRITISH *versus* GERMAN TRADE METHODS

MR. BYRON BRENAN, C.M.G., H.M. Consul at Canton, in a recent report to the Foreign Office on the trade of Japan, writes as follows with regard to British and German methods of trade:—

"In what is called pushing business, I do not think we are so advantageously situated as some of our neighbours. Our mercantile houses, as a rule, have a well-established business, and are not anxious to venture into new fields, and, moreover, English mercantile men come of a class with a different training from their German confrères. I am aware that here I tread on delicate ground, but when it comes to taking trouble and putting up with disagreeable experiences, the young German does so with more readiness than the Englishman. We have not the class of men who are willing to play the role of salesman. In illustration of my meaning, I will relate what occurred to me at a small port in the East, where there may have been a dozen European residents in all. Wishing to obtain an English-made article for my own use, I inquired of an English merchant whether there was a native shop or store where European articles were sold. He replied that, with such a small European community, there was not sufficient support for a "foreign store," and that the Europeans obtained all their supplies from the neighbouring large port. This Englishman had lived several years in the place, and I accepted his answer without demur. In walking through the streets next day I came across a very well supplied "foreign store," kept by a native. The store was stocked with almost all that a housekeeper could require, a veritable "Army and Navy Stores" in miniature, and the storekeeper obtained his supplies through a German merchant in the port. It is very probable that the English merchant would not have cared for the business; he would have said, truly enough, that it was not in his line; but somehow there always seems to be a German in whose line it is.

"With such satisfactory results it may seem superfluous to criticise the business ways of English manufacturers. It is, nevertheless, a subject of remark, if not precisely of complaint, that the English makers show less eagerness to secure orders than their Continental or American rivals. When an English manufacturer believes, and from the nature of the case he can usually judge correctly, that the inquiries which are being made from different quarters all have reference to one particular order, he may decline to give quotations to more than one inquirer, or he may answer that his terms are well known to the Japanese Government, as he has already executed similar orders before. Where a firm of manufacturers has a special agent in Japan there may be good reason for leaving all business exclusively in his hands; but it seems unwise to give discouragement to local men who, in the hope of getting a commission for themselves, are willing to take an infinity of trouble to make a sale to some Government department or large private company. A pushing local firm that meets with discouragement at the first venture is not likely to approach the same makers again unless he finds that all makers are equally unresponsive."

Mr. Brenan goes on to say that from what he could gather it would appear that English manufacturers look for in others the same business qualities as they possess themselves, and expect that a customer shall have a full knowledge of what he really wants. Japanese in responsible posts, whose technical knowledge, however, may not come up to the requirements of their position, do not meet with adequate assistance from British makers in formulating their specifications. If to the critical eye of the British technical man the inquiry betrays a certain amount of vagueness and ignorance on the part of the Japanese applicant, the application is likely to be set aside as not savouring of real business. The more eager continental rival will detect a possible customer, will make practical suggestions as to what the inquirer really requires, and will keep hold of him until he has secured an order, or until the case proves to be hopeless. There are also occasions when, for some reason of their own, the Japanese require an article made in some way which experience has proved not to be the best; still they wish to have it, and will not have the improved kind. The following is an instance in point:—An arsenal required a crane with the lifting machinery of a certain description not now considered as the most serviceable. Application was made to an English maker, who refused to supply the out-of-date article. A German maker accepted the order, and thus obtained an opening which he will probably turn to good advantage. Again, the sewing machines of a well-known English maker were in possession of the field, and might have remained there had the makers thought it worth their while to humour the fancy of their Japanese customers. For some reason of their own, the Japanese wished to have a machine with the arm somewhat higher than it is usually made. The English makers thought that the change would be a disadvantage in working the machine, or at any rate that it was unnecessary. Some German makers did not mind that: they saw that in consulting the Japanese preference there would be an advantage to themselves; and now the German-made sewing machine is seen everywhere.

But the loss of business caused by this unbending adherence to established standards is not limited to the makers who refuse to be accommodating. It sometimes reacts upon others. One British firm in Japan lost a good order for rails, and consequently some English maker also, because with the rails it was necessary to supply a certain kind of crossing and switches which are not now made in England. The English firm had hitherto got over the difficulty by supplying the rails from England, and obtaining from the Continent what the British ironmasters refused to make; but their continental rivals here saw their opportunity. The order had to be executed as a whole, and if the British firm could be prevented from obtaining the switches the order would have to be transferred to such parties as could supply all that was desired; so a paternal Government applied a little pressure to the continental maker of the right kind of switches, and he refused to sell any more to the British firm, who thus were unable to fulfil their orders, and in the end both switches and rails were procured from the Continent.

THE COTTON-SEED INDUSTRY OF THE UNITED STATES.

The cotton-seed industry of the South amounts to 4,000,000 tons annually, valued at 113,000,000dols. (£23,500,000.) In 1867 there were only four mills in operation; in 1897, there are over 300, with more than 50,000,000dols. (£10,400,000.) invested. This industry employs 10,000 people. In 1872 less than 5,000 barrels of cotton-seed oil were exported; in 1896 more than 300,000 barrels were shipped to foreign markets.

There are now annually crushed in the oil mills of the South about 1,500,000 tons of cotton-seed, giving a product of 700,000 tons of hulls alone. There are annually grown from 8,000,000 to 10,000,000 bales of cotton. More than 2,500,000 tons of cotton-seed are not as yet hauled to the oil mills on account of the distance from the gins. The total seed crop is by weight twice as great as the cotton crop. For each bale of cotton that is marketed there is about 1,200 pounds of seed for sale.

The cotton-seed market is partially dependent upon the supply of corn and other foodstuffs. For instance, cotton-seed oil is used largely in the manufacture of an article of commerce which sells for lard, and which has largely superseded the use of the real article. As a matter of necessity, the price of vegetable lard is dependent to a large degree upon the price of the animal article. Plenty of corn gives plenty of food to fatten hogs, and when hogs are fattened at small cost they are marketed at low prices This condition of affairs has its influence on lard, and of course the price of seed products used for manufacturing vegetable lard falls off. With plenty of corn and other grain to feed cattle, there is not so much need for cotton-seed meal or hulls.

River cotton-seed produces much more oil than railroad seed, and there is always a difference of one dollar per ton in their values. Seed can be shipped by rail in bulk. It has to be carried in bags when shipped by river. Mills must furnish river seed with sacks, and besides the cost of the sacks themselves, there is the cost of labour in loading and unloading the product.

The hulls are the most valuable part of the seed, and they comprise 48 per cent. of the weight. In a dry and loose condition, the hulls form a perfect cattle food. For the purpose of rapidly fattening cattle, meal is added to the hulls. For many years the hulls were thrown away as valueless, but to-day every mill in the South finds a ready sale for their entire output.

In various States, particularly Texas, many thousand head of cattle are annually fed, and with the addition of cotton-seed meal, are fattened upon cotton-seed hulls. Much of the Chicago and Kansas City dressed beef shipped to all parts of America in refrigerator cars is simply concentrated cotton-seed hulls. The price of hulls varies from three to ten dollars a ton, which is far below their intrinsic value. Every dairy about the larger Southern cities, every farmer near enough to the mills, is now feeding milch cows on them. Ninety per cent. of the value of hulls is available for fertilisers after being used for food. The highest development yet of cotton-seed oil is by a fibre company at Memphis. There the nutritious part is separated and made into cotton-seed bran, and the lint for use of paper-makers.

Memphis is the largest cotton-seed market in the world. The mills are widely distributed among the large cities and smaller towns. The farmer's clear profit upon every ton of cotton-seed is 11dols. after all expenses are paid.

SANITAS COMPANY, LIMITED.—The directors have resolved to recommend the payment of a final dividend of 1s. and a bonus of 9d. per share, bringing up the total distribution for the year to 13¾ per cent. on the fully paid shares numbered from 1 to 50,000, and a final dividend and bonus of 1s. 2½d. (in all) on the shares numbered from 50,001 to 60,000

Reports of Companies.

GUTTA PERCHA CORPORATION, LTD.

The first ordinary (statutory) general meeting of the shareholders of this company was held last week at Winchester House, Old Broad-street, E.C., Sir Edward Thornton, the chairman of the company, presiding.

The Chairman said: Gentlemen,—Although this is the statutory meeting, and the company was only issued some two months ago, we have some items of interest to communicate to you. In the first place we have to announce the retirement from the board of Sir Joseph Spearman, for private reasons. Those private reasons are mentioned in his letter of November 30th. He says, "I find the calls on my time in my present state of health would prevent me adequately discharging the duties of a director of a new company." Since that time there have been elected to the board Mr. R. T. Reid, Mr. Thomas Newton, Mr. Joseph Breuer, of Paris, and Captain Berkeley, representing French interests; and I think the addition to your board of four such business men, who know thoroughly what they are about, is a distinct acquisition for the company. Now I come to a point which, though very unimportant in itself, requires some explanation so as to avoid any future misunderstanding. It is a point the fact of which should be put clearly before the shareholders. It is simply this: certain claims were made in connection with patent rights, if any, in part of the island of Borneo—namely, British North Borneo, the kingdom of Brunei, and the Dutch Governments of Borneo—by a Mr. Abrahamson. These claims are of no value to the company at all, but simply concern M. Serullas and Mr. Abrahamson. Owing to the extreme heat of those countries the process could not be worked there, and the markets of the world are secured to your company under the patents already granted and assigned to it, and we have completed our purchase, and had the patents and all other patent rights assigned to us, excluding for the moment the ground covered by Mr. Abrahamson's claims, which we have left Serullas to deal with, but retaining in our hands, however, part of the agreed purchase money until the matter is settled between them. So much for Mr. Abrahamson, the Kingdom of Brunei and Co. Let me pass on to a far more important and interesting point. We are all convinced—and I am sure you are all convinced—that the company possesses

VERY VALUABLE PATENTS.

We only joined the Board after having the opinions of three of the most eminent authorities on the subject in the United Kingdom. While this patent, like many a good thing, was lying idle in inexperienced hands, a number of enterprising men in France, thinking it would not be worked by others, put up a factory, and have been working it profitably on a commercial scale since 1894. They have been producing as much as 140 lbs. weight of gutta percha in one day, which, according to our estimate, would give a profit of about £30 per day. Of course, after the corporation was formed we were not going to sit down quietly and allow our patents to be infringed in that manner. We consequently dispatched our manager to the Continent to inspect the land and ascertain the facts and figures and extent generally of these works, and to see the interested parties there with a view to an amicable arrangement as an alternative to legal proceedings, which are always tedious and expensive. And very properly our manager consulted a leading French lawyer on the subject, and, in fact, he also got a French lawyer to accompany him on his mission. Well, he saw the interested parties; he had long interviews with them, and he succeeded in persuading them that it would be beneficial to all parties that they should hand over their factory, freehold land covering an area of about 20,000 square feet, and having a splendid frontage on a well-known canal, together with a plant, machinery, buildings, manager's residence, electrical installation, water rights, goodwill, stock and barrel, as a profitable and going concern, on a very satisfactory basis, payable as to one-half in cash, and one half in shares in this company taken at par, and this arrangement should be confirmed at the meeting of the private company owning this factory to be held to-morrow. Although we are looking out for a suitable site to put up

WORKS IN LONDON,

I am sure this arrangement of taking over this established business, although its factory is in France, will be considered by you as eminently satisfactory. It is an absolute proof to you that the process is thoroughly commercial and profitable, and that, pending the time it will necessarily take to get our London factory into thorough working order, we shall be in possession of an establishment already in working order, and actually paying at the present time, and the earning powers of which can be increased indefinitely by doubling, trebling or quadrupling the machinery as we think fit. Before concluding, I should like just to make a few remarks with reference to two questions that have often been asked. These are—can we get the leaves, and if so, why not manufacture on the spot? The answers to both these questions are exceedingly simple. The leaves we can get in any quantity, the company already owning more than 200 tons, which were included in the purchase, and having besides offered to it on sale a further similar quantity. The company's agents in the East also inform us that they are prepared to supply thousands of tons per annum. As to the second question, we have gone very thoroughly into the matter, and we find that it would be much cheaper to manufacture here than on the spot. It is always difficult to consign chemicals and acids to the East. The only extra cost of manufacturing here might be the freight of the leaves from Borneo and Singapore to Europe, but that outlay is covered by the fact that after the gutta has been extracted from the leaves, the used leaves can be sold for paper pulp at a price far exceeding the cost of transport, so that there is no loss on freight at all. I do not wish to detain you any longer, and we hope that when we next have the pleasure of meeting you, we may be able to give a still more satisfactory account of our corporation. Of course, we have no business to transact on this occasion: it is only a statutory meeting, but I may tell you that I think I have never had to do with so pleasant and so encouraging a business as this. I have great faith in it myself. (Applause)

Mr. Wybrow Robertson: As apparently there are no questions to be asked, I beg to propose a vote of thanks to the Chairman, and I only trust that his prognostications will be fulfilled.

The proceedings then terminated.

EXPORTS OF ALKALI AND BLEACH.

THE following returns, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries during the year ending December, 1897, as compared with the year 1896:—

ALKALI.

Port.	1896.	1897.	1896.	1897.
	Cwts.	Cwts.	£	£
Russia	211,300	238,620	63,284	68,458
Sweden and Norway	122,900	99,675	24,854	20,678
Germany	131,100	176,170	34,877	40,904
Holland	120,700	145,655	23,262	27,851
France	49,700	58,902	17,993	20,114
Spain and Canaries	309,100	335,074	107,330	109,297
Italy	228,600	240,736	66,856	69,943
United States	2,226,300	1,922,050	495,912	436,812
Australasia	218,200	220,833	67,509	66,787
British North America	205,900	181,557	50,362	44,600
Other countries	1,017,500	1,356,846	289,934	373,246
Total	4,841,300	4,976,118	1,242,173	1,278,690

BLEACHING POWDER, ETC.

Port.	1896.	1897.	1896.	1897.
	Cwts.	Cwts.	£	£
United States	744,200	749,636	253,736	235,417
Other countries	444,200	419,715	152,750	136,063
Total	1,188,400	1,169,351	406,486	371,480

EXIT THE LEEDS WATER GAS COMPANIES.—An extraordinary general meeting of shareholders of the Amalgamated Water-Gas Company was held at the Great Northern Hotel, Leeds, on Monday for the purpose of "considering and, if deemed expedient, passing the following resolution:—'That it has been proved to the satisfaction of this meeting that the Company cannot, by reason of its liabilities, continue its business, and that it is advisable to wind up the same, and accordingly that the Company be wound up voluntarily.'" Mr. Samson Fox presided over the meeting, which was of a formal character.—Mr. J. T. Simpson (Halifax) proposed and Mr. R. Pollard (Leeds) seconded a resolution to the effect that the Company should be wound up. This having been carried, Mr. T. Proctor, one of the directors, proposed, and Mr. A. Atkinson seconded a resolution proposing Mr. John Gordon, jun., as liquidator. This, too, was carried without opposition.—Addressing the meeting, the Chairman said: I am sorry to have had such a meeting. There have been, however, several reasons that have stepped in the way of my strong wish to carry through what would have been a success. But I have no more power than most strong men. I am sorry that this grand venture which we started out with so many years ago has had to come to this. There have been, however, forces and interests against me that I could not have foreseen.—The proceeding then terminated.

DISASTROUS FIRE AT NEWCASTLE.

A FIRE which was attended with calamitous consequences broke out on Saturday afternoon at the oil refinery and grease stores of Messrs. Mawson and Clark, at Walker-gate, near Newcastle-on-Tyne. Not only was the destruction of property considerable, but two men lost their lives, and it is computed that more than 100 people were injured, some of them seriously. Nearly the whole of the injured were spectators who had been attracted to the place by the extraordinary character of the conflagration, the reflection of which, as evening advanced, could be seen for miles round. The outbreak occurred shortly after three o'clock. The inflammable nature of the stores caused the fire to spread quickly, and raised a feeling of consternation among the inhabitants of the district. The building glowed like a furnace, and volumes of black smoke were swept over the locality by a fresh westerly breeze, which, while it fanned the flames, at the same time fortunately carried them in a direction opposite to that in which other large buildings were situated. Apprehension as to the possibility of the fire spreading was not, however, allayed for a long time, and the absence of adequate extinguishing appliances added to the fear that the devastation would be more serious than at first seemed likely. Messrs. Mawson and Clark's works stood by the side of the North-Eastern Railway, just beyond the junction of the main line north with the branch between Newcastle and Tynemouth, and the local line traffic was stopped, to the inconvenience of the residents of the riverside towns, who visit the city in large numbers on Saturday. Passengers in the train on the north line had a somewhat alarming experience, as they seemed to rush through a flare of fire which overtopped the carriages. The fire extended for about 100 yards along the side of the railway, to which several engineering establishments and the engine sheds and carriage-repairing shops of the railway company are contiguous. But the consequences would not have been so calamitous had it not been for an explosion which occurred when the blaze was most furious. Thousands of people—men, women, and children—had been attracted to the spot, and were intently watching the rapid destruction of the property when this disaster happened. A large tank containing 16 tons of creosote caught fire, and the flames sprang high up from the manholes. The tank was placed at right angles to the railway and was elevated to a considerable height from the ground upon brick walls. The ends of the tank abutting on the line gave way, and fire spurted from the yielding seams. At this time the crowd was left almost entirely to its own devices. Although several spectators warned the others, the majority of the sightseers did not realise the danger of the situation. Gradually the tank bulged outwards, and then with a startling report the structure gave way. A huge piece of hot metal was hurled across the railway and fell upon a man. Bricks and scraps of red-hot metal were scattered in all directions, and a stream of burning fluid was cast across the line in the direction of the crowd, several of whom it reached, enveloping them in flames. The scene which followed was one of confusion and panic. Some of the ill-fated people, interested spectators but a moment before of a brilliant spectacle, were now veritably clothed in fire, their garments in some cases being alight from head to foot. Distracted with pain and terrified at the cruel fate which seemed to have befallen them, they rushed blindly wherever they could, or threw themselves on the ground in the endeavour to extinguish their burning clothes, shrieking for help. The firemen for the time being turned their attention from the buildings, which were now a hopeless prey to the flames, to the people who were being scorched by fire and tortured by hot liquid, and played upon them with the hose. About 26 had to be retained in the Infirmary.

Trade Notes.

THE POSITION IN IODINE.—It is freely reported that an influential member of the iodine combine has withdrawn, and has threatened to offer his stocks. The efforts to effect a truce have not been very successful. Future developments should prove highly interesting to all who pay any heed to iodine.

NOT FAR WRONG.—Eminent lecturer out West, on the subject of "The Universe": "Gentlemen, the earth belongs to the solar system." —Evicted Farmer: "Thank heaven! I thought it belonged to the Standard Oil Company!!"

MANCHESTER CHEMICAL CLUB DANCE.—The usual annual Cinderella will be held in the rooms of the Manchester Chemical Club, on Friday, February 18th, 1898, provided sufficient applications for tickets are received prior to February 7th. To facilitate the necessary arrangements, members are requested to advise Mr. J. Carter Bell as to the number of tickets they are prepared to *guarantee*, as unless a sufficient return be made prior to the above date, the Cinderella will have to be abandoned. Double tickets 10s. 6d; gentlemen 7s. 6d.; Ladies 5s. each.

SOCIETY OF CHEMICAL INDUSTRY—*London Section.*—Chemical Society's Rooms, Burlington House. Meeting on Monday, Feb. 7th, 1898, at 9 p.m., when the following papers will be read: (1) "The curing of malt in relation to colour and value," by Mr. J. W. Lovibond. (2) "Clerget's method of estimating cane sugar," by Mr. A. R. Ling. (3) "A new modification of Clerget's method of estimating cane sugar, specially applicable to molasses and after-products," by Messrs. A. R. Ling and J. T. Baker. (4) "Note on the estimation of water in invert sugars," by Dr. L. T. Thorne and E. H. Jeffers.

PATENT LAW ANOMALIES.—In dealing with the revision of the Patent Laws the "Manchester Chamber of Commerce Record" points out that the German Patent Office often refuse to grant patent rights after tedious negotiations and for insufficient reasons. The undue stringency of the German Patent Office is proved by the fact that 40 per cent. of their refused patents were subsequently granted by the United States Patent Office after careful preliminary examination. The result is that the intellectual property of British inventors becomes the common property of the German nation. The consequent monopoly that this practice gave to the Germans in the English markets is pointed out, as no royalty had to be paid (in regard to these refused patents), and no restrictions were attached. The Germans were thus able to produce and sell articles at lower prices than those at which they could be made or purchased in Great Britain. The German manufacturers who held patents in this country in respect of processes not patented in their own, had the opportunity of perfecting during fourteen years the process of manufacture, and owing to their large profits were enabled to depreciate their plant and machinery down to nothing, and to establish a large connection. When the monopoly had terminated in Great Britain, the German had obtained such a start that it was impossible to compete with him. The superior practice of the United States in this respect is pointed out, American patent law directing that home patents should expire conterminously with foreign patents for the same article.

RAISING THE FLASH POINT OF OIL.—It appears to be extremely probable that some legislative steps will be taken in the near future to prevent the distribution and use in this country of mineral oils having a dangerously low flash point, and naturally in view of this the attention of those engaged in the oil trade is being closely directed to the subject. One firm identified with European sources of supply is said to have already made preparations for supplying a safe oil at the same price as the American low flash variety; but other authorities are working on different lines. Attention is now also being invited to a proposal made by Mr. E. Berchten, Ph.D, of 28, Devonshire-chambers, Bishopsgate-street, to raise the flash point of low flash oils by a simple and inexpensive method. Dr. Berchten, who, by the way, has had an extensive experience on both the European and American oil fields, naturally does not disclose the details of his process, but he is prepared to supply data which shows that he is able to secure remarkable results. He will, he informed a representative of the *City Press* the other day, take a ton of low flash oil, say at 70 degs, and at a cost of 2s 6d. raise the flash point to 105 degs., which works out at something like an eighth of a penny per gallon. Moreover, with a properly equipped factory, and large quantities to deal with at one operation, he promises to still further reduce the cost of the process. The oil thus treated, it is also asserted, will burn longer than if used in its original state. It is manifest, therefore, that, if these claims can be sustained in practice, and Dr. Berchten's proposals are carried into effect on a large scale, the users of oil for domestic purposes will have a perfectly safe illuminant at their disposal, and that without any appreciable addition to its cost.—[This sounds much like the familiar air gas process, which, considering the abundant supplies of naptha-petroleum in this country has, strange to say, hardly been worked at all.—Ed. *C.T.J.*]

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are rather firmer and selling better, with 90's at 1s. 3½d. and 50/90's 1s. 6d. to 1s. 6½d. Naphthas are steady but unchanged. Carbolic acids are firm at 2s. for 60's and 7¼d. for 40% crystals. Anthracene steady at 5d. to 5¼d. for 30% A. Creosote is moving nicely, while pitch shows an improvement at 18s.6d., f.o.b. East Coast.

Sulphate of ammonia is a steady market, and there has been a good business doing at full prices. There is a tendency to a quieter market with the close of the week, but nearest prompt values are:— London outside makes, £10. 3s. 9d.; Liverpool, £10. 3s. 9d. to £10. 5s.; Hull, £10. 3s. 9d.; and Leith, £10. 3s. 9d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is a good all-round demand. Prices are somewhat variable, however, and this lack of stability is a characteristic of the trade as a whole. Bleaching powder for the present is in fairly active request for export and home trade, hardwoods, f.o.b. Liverpool

realising £6. to £6. 5s. per ton, and for softwoods, f.o.r. makers, works, £5. 2s. 6d. to £5. 5s. is the current price for home trade orders. Chlorates continue on the downward grade: Potash at 3¼d., and soda at 4d. per lb. Ammonia alkali, 58%, is steady at the convention price of £4. 2s. 6d., bags, f.o.r. Soda crystals and bicarbonate are unchanged. Caustic soda is rather firmer for prompt, but unaltered for future delivery; spot quotations, f.o.b. Liverpool, are as follows:—77%, £8. 10s.; 74%, £8. 2s. 6d; 70%, £7. 5s.; 60%, £6. 5s., nett, 10-ton lots. Sulphate of copper has declined during the week to £16. 10s. for prompt, f.o b. Potash, caustic and carbonate are without alteration. Saltcake is moving more freely at 17s. 6d., f.o.r. Sulphur firm at £4. 10s. per ton. For vitriol and muriatic acid there is a fair demand. Acetate of lime is firm at £5. 15s. to £6., c.i.f. Acetic acid firmer, but prices nominally unchanged. Acetates of soda of lead are in rather better request, but irregular in price. Yellow prussiate of potash, 6½d. to 6¾d. Cyanide easier at 1s. 1d. per lb. Salammoniac has been advanced to 35s. and 33s. per cwt. for firsts and seconds respectively. Muriate of ammonia without change. Aniline oil and salt are lower. Carbolic acid crystals in strong request, and prices are higher. White powdered arsenic, £21. for spot delivery, but slightly lower prices are quoted for forward. Sulphate of iron in good general request, and prices are firm. Nitrate of soda quiet, but with better prospects for forward delivery. Sulphocyanides dull and without alteration in values.

REPORT ON MANURE MATERIAL.

A fair business has been doing, but manure manufacturers are well supplied, and it is rather early for consumers to buy extensively. There is nothing of importance doing in mineral phosphates for the United Kingdom, but sales of high grade Florida rock have been made to the Continent at full prices. The quotation for 75/80% Florida rock for autumn shipment is 6¼d. per unit, but probably 6d. per unit would be accepted for good ports. South Carolina River Rock is quoted 5½d. per unit, and 58/63% Algerian 5⅛d. per unit. Owing to large arrivals East Indian bone meal offers more freely, and £4. 5s. per ton would be accepted for parcels ex quay. Nitrate of soda again offers freely at 7s. 6d. per cwt. for good up to 7s. 7½d. per cwt. for fine quality, on spot. A parcel of River Plate dried blood has been sold, ex quay Liverpool, at 8½d. per unit, supplies being scarce, and there being keen competition for it.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron: Scotch warrants closed at 45s. 7d.; Middlesbro', 40s. 6d. cash; and hematite, 48s. 6½d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £42. 2s. 6d. to £49. 7s. 6d. cash, and £49. 10s. to £49. 15s. three months. Tin steady: Straits closed at £63. 1s. 3d. to £63. 11s 3d. cash, and £63. 13s. 9d. to £64. 3s. 9d. three months; Australian, £63. 15s.; English ingots, £66. Lead easy: Spanish, £12. 7s. 6d.; English, £12. 10s.; Silesian spelter, ordinary, £17. 17s 6d. to £17. 18s 9d. Nickel, 1s. 2½d. Antimony, £30 5s. Quicksilver: First hands, £7.; second hands, £6. 19s. *Copper shares* steady: Cape, 5 to 5⅛; Copiapo, 2⅜ to 2½; Libiola, 2¾ to 3; Mason and Barry, 3½ to 3¾; Rio Tinto, 28¼ to 28⅜; Tharsis, 7⅜ to 7⅝.

GLASGOW, THURSDAY.—Market firm, and a good business. Scotch done at 45s. 8d. cash, also at 45s. 10½d., 45s 10d., and 45s. 10½d. month; buyers, 45s 7½d. cash; sellers, 45s. 8d. cash. Cleveland done at 40s. 9d. month; buyers, 40s. 6d. cash, sellers, ½d. higher. Cumberland hematite done at 48s. 8d. cash and 48s. 10½d. month; buyers, 48s. 8d. cash; sellers, ½d. dearer. Middlesbrough hematite, buyers, 49s. 7d. cash; sellers, 50s.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is only in moderate demand, but the tone of the market is steady. Olive is very firm, supplies being very short. There are sellers of Spanish at £33. 10s. to £34. per tun. Linseed is firm and only offered in small quantities at 16s. 6d. to 17s. per cwt. for Liverpool makes in export casks. Cottonseed is rather inclined to firmness, Liverpool refined now being sparingly offered at 14s. 9d. to 15s 6d. per cwt. Castor oil is a very satisfactory market with both good seconds Calcutta and first pressure French quoted at 3 5/16d. per lb. Tallow is steady, but there is only a small business passing. Resin continues in good demand at full prices Spirits of turpentine are firm, and moving nicely at 24s. 9d. cwt. Petroleum is quiet, though so far quotations remain at 4d. for Russian refined, and 5d to 6¼d. per gallon for American.

CAKES.—The tone of the market for American Western linseeds on the spot is a shade firmer again, and an improved inquiry has been experienced at a slight advance, namely £6. 15s. to £7., whilst Liverpool makes have continued firm, and meet with a very fair demand at £8. 5s. to £8. 10s. per ton. The business done in American decorticated cottonseed cakes has been moderately active, and the tone is again firmer, with sellers of good to choice brands now asking £5. 7s. 6d. to £5. 17s. 6d., according to quality; and moderate sales making in Liverpool makes at the recent values, viz., £6. 5s. to £6. 10s. per ton. Undecorticated Liverpool makes move off into consumption on a very fair scale, and previous full rates are well maintained at £3. 18s. 9d. to £4. 10s. per ton, according to brand. The tone of the market is steady for spot parcels of Egyptian, and the quotation is unaltered at £3. 17s. 6d. per ton, at which holders experience a fair amount of inquiry.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12., best £15.; Derbyshire—common 40s., medium 50s, best 60s.; Welsh—best 90s., seconds 50s., and common 18s.; Irish, Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The situation here may be described as improving in face of a better demand, stimulated, no doubt, by the renewal of work by the engineering firms, which has so far had no effect upon quotations. The imports to date this year have been:—Linseed, 32,826 quarters, against 49,262 quarters during same time a year ago; rapeseed, 11,616 quarters against 6,522 quarters; cottonseed, 28,789 tons against 17 333 tons; oilcake, 1,513 tons against 557 tons; olive oil, 235 tuns against 284 tuns. Linseed oil steady, spot, 14s. 9d. per cwt., naked; forward Feb-April, 15s 1½d.; May-Aug., 15s. 3d. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton oil firmer, spot naked, 12s. 7½d.; forward Feb.-April, 12s 10½d.; May-August, 13s. 4½d.; whilst crude is quoted 11s. 4½d. buyers. Filtered refined from £1. to £1. 5s. per ton extra over the margin for refined oil; barrels £1 10s, and ordinary casks £1. per ton extra. Turpentine, 24s 9d. Resin is quoted from 4s. 9d. to 5s. on the spot for common grades, up to 7s. 6d. for finest. Olive oil is scarce, consequently rates continue high, from £33. per tun upwards according to origin. Olive oil soap is likely to advance, according to advices, in sympathy with oil: quotations still are from £16. per ton. Cod oil from 15s. 6d. to 18s. in barrels. Oleines from £16. to £18. per ton. Arachide nut oil, £28. per ton for yellow. British manufactured castor oil is quoted from 30s. 6d. per cwt., or 3½d. per lb., for first pressure, to 29s. 6d., or 3 5/16d. per lb., for second pressure.

CAKES.—Linseed cakes steady, demand small, 95% pure, £8. to £8. 2s 6d. Oil cakes (linseed) £6. 17s. 6d. to £7. Americans, £7. 5s. to £7. 7s. 6d. Russians, £7. 7s. 6d. to £7. 12s. 6d. Cotton cakes firm, best makes £4. to £4. 1s. 3d. spot; seconds £3. 17s. 6d. to £3. 18s. 9d. Rape cakes, Black Sea, £4. 5s.

PAINTS.—Makers continue fairly well employed, without alteration in rates. Venetian red, dry, £4. Yellow ochre, £3. 10s. Ready mixed paints in lever tins, 24s. 6d. Paint remover, 25s. Patent dryers from 12s. per cwt. Black varnish £5. per ton. Oak varnish from 5s. per gallon.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Yet again is there a further advance to be recorded for sulphate of ammonia. During the week, £10. 5s. has been paid for prompt business f.o.b. Leith, and there is report of one transaction at £10 7s. 6d. f.o.b. Glasgow, which is very likely to have been the case, Glasgow delivery terms always ranking higher than Leith. Forward business is still a blank, but there is bound to be some buying very soon on that basis. Makers, it is understood, are willing to fix from now to October at £10. f.o.b. Leith, and if they remain firm, buyers will be obliged to agree to that, or possibly to a higher figure still, if the prompt price makes a further advance. Sulphate of copper is easier a little. A fair amount of business is doing in the general lines at the old quotations.

Chief prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 0s. 0d., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d. nett, for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. nett, for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3⅝d. less 5%, any port; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £10. 5s. prompt, f.o.b. Leith; salammoniac, first and second white, £33. and £31. nett, any port; sulphate of copper, £16. 15s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.;

paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower): ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 5,430 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no change to report and prices remain unaltered, the demand for home trade is fairly good, but for export there are few signs of improvement as yet. Soda crystals, £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77%, £9.; 70%, £7. 10s. per ton. Sulphur steady at £4. 15s. to £5 per ton.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—Steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—Business is rather quieter, though there is still a fair demand for fuel generally, and collieries are kept fairly busy. Household coals are dull and demand, disappointing no doubt owing to the continued mild weather. There is no alteration in manufacturing coal, though with the termination of the engineers' strike there is a prospect of improved demand. Prices are:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; small steam, plentiful, 3s. 3d. to 3s. 6d. per ton; gas coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; coke, steady, 17s. 6d. to 21s. per ton.

New Companies.

African Oil Mills Co., Ltd.—CAPITAL £100,000. in £10. shares. This company has been formed to adopt a certain agreement, and to carry on the business of seed crushers, oil boilers and refiners, and importers and exporters of and dealers in palm oil, ground nuts, and oleaginous seeds. The subscribers to the memorandum of association are:—A. L. Jones, 6, Water-street, Liverpool, shipowner; A. Sinclair, 6, Water-street, Liverpool, shipowner; W. J. Davey, 6, Water-street, Liverpool, shipowner; E. W. McConnan, 3 and 5, Rumford Place, Liverpool, merchant; A. E. McConnan, 14, Castle-street, Liverpool, clerk; R. C. H. Sinclair, Dormy, Hoylake, student; H. W. Davey, Holmleigh, Grassendale, Liverpool, student.

Atkins Filter, Engineering & Water Softening Co., Ltd.—CAPITAL £2,500. in £1. shares. This company has been formed to acquire and carry on the business carried on by the Atkins Filter and Engineering Co., Ltd., at 71, Southwark Bridge-road, S.E., and at St. Anne's Lane, Chepstow, Mon. The number of directors is not to be less than 3 nor more than 5; the subscribers are to appoint the first. Qualification £50.; remuneration £25 each per annum (£35 for the chairman) and a share in the profits. Registered office, 71, Southwark Bridge-road, S.E.

Birmingham Carbide Co., Ltd.—CAPITAL £25,000. in £1. shares. This company has been formed to enter into an agreement with the Thornton-Scarth Automatic Lighting Syndicate, Ltd., and to manufacture and deal in carbide of calcium and all kinds of chemical substances. The subscribers to the memorandum of association are:—J. K. Starley, Barrs Hill, Coventry, cycle manufacturer; H. Levetus, 47, Vittoria-street, Birmingham, manufacturer; J. A. Cooke, Scally Holt, Scarborough, gentleman; H. Stevens, Allesley, Coventry, manufacturer; J. Thomas, Hawarden Lodge, Coventry, cycle manufacturer; J. H. Gibbs, Chester-street, Coventry, cycle agent; W. Starley, Queen's-road, Coventry, cycle manufacturer.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 22nd.

Acetic Acid—
Holland, 72 cks. A. & M. Zimmermann

Acetone—
France, 13 drs. R. D. Lyon

Antimony Ore—
Bastia, 21 t. J. Bamber
Australia, 2 H. Bath & Son

Arachide Oil—
Holland, 4 cks. Phillipps & Graves

Arsenic—
Portugal 59 brls. Coverley & Westray

Asbestos—
Belgium £32 Imp. Asbestos Co.
Italy, 250 ,,
Germany, 7 Craven & Co.

Barium Chloride—
Germany, 30 cks. Petri Brs.

Barytes—
Belgium, 89 cks. O'Hara & Hoar
,, 38 W. Harrison & Co.
,, 22 Union Ltge. Co.

Bone Meal—
E. Indies, 200 t. Fox, Roy & Co.

Caoutchouc—
Penang, 376 c. Butler's Wf., Ld.
U. States, 9 Lewis & Peat
Singapore, 51 Huttenbach & Co.
P. E. Africa, 22 L. & I. D. Jt Co.
Penang, 597 E. Boustead & Co.
Germany, 6 Hale & Son
,, 16 Major & Field
,, 14 L. & I. D. Jt. Co.
E. Indies, 10 ,,
P. E. Africa, 30 Brookes & Green
Madagascar 56 Kleinwort, Sons & Co.

Castor Oil—
France, 15 cks. Beresford & Co.
E. Indies, 20 Cayzer, Irvine & Co.

Caustic Potash—
France, 22 pks. W. E. Cole

Chemicals (*otherwise undescribed*)
Holland, £78 H. Lore 12
Germany, 30 Elkan & Co.
,, 50 Phillipps & Graves
Belgium, 128 T. Palmer
,, 9 Fenning's Oil Co.
Denmark, 92 Bailey & Leetham, Ld.
Belgium, 11 Major & Field
Germany, 750 L. & I. D. Jt. Co.
Holland, 30 R. W. Greeff & Co
Sweden, 10 M. D. Co.
Germany, 14 Blondeau & Co.
Holland, 40 A. C. Lloyd
Germany, 20 cks. J. Barber & Co.
Belgium, £20 66 cks T. H. Lee
,, 80 John Cockerill Line

Citrate of Lime—
Italy, 124 cks. B. Jacob & Sons

Cream of Tartar—
France, 4 cks. Blackmore, Leconte & Co.
,, 10 C. Atkins & Nisbet
Spain, 5 B. & F. Wf. Co.
France, 17 ,,
,, 5 M. Ashby, Ld.

Dyestuffs—
Aniline
Belgium, 29 pks. W. Gerson & Co.
Argols
Cape, 7 pks. L. & I. D. Jt. Co.
Cochineal
Canaries. 18 bgs. W. M. Smith & Sons
Extracts
France, 6 cks. Bennett S. S. Co.
France, 5 cs. Major & Field
,, 40 200 T. H. Lee
Belgium, 20 Leach & Co.
Bastia, 500 Union Ltge. Co.
,, 10 Scriven Brs & Co.
Germany, 20 T. H. Lee
Denmark, 2 M. D. Co.
France, 90 L. J. Levinstein & Sons
U. States, 30 W. C. Barnes & Co.
France, 2 J. Harrison

Gambier
S'gapore, 2,514 bls. Adamson, Gilfillan & Co.
,, 1,617 Hicks & Ashmore
,, 177 bgs. Beresford & Co.
,, 168 R. & J. Henderson
,, 1,763 pks. E. Boustead & Co.
,, 898 G. S. N. Co.
,, 929 Brinkmann & Co.
Ceylon, 428 G. R. Haller
Singapore, 706 Brown & Elmslie
,, 277 P. Heydemann
Penang, 176 J. W. Cook & Co., Ld.
Singapore, 887 898 bls. Hoare, Wilson & Co.

Indigo
E. Indies, 16 chts. J. Owen
Belgium, 1 cs. John Cockerill Line
Holland, 2 chts. H. W. Jewsbury & Co.
E. Indies, 5 Ralli Brs.
,, 57 Arbuthnot, Latham & Co.
,, 76 pks. A. B. Curtis & Co.
Manila, 28 chts. J. Kenyon & Sons
E. Indies, 9 H. J. Perlbach & Co.
,, 6 M. Eardmann & Co.
,, 3 Dipnall & Co.
,, 5 Thomasset & Co.
,, 2 L. & I. D. Jt. Co.
,, 6 R. Von Glehn & Sons
,, 33 Parry & Co.
,, 2 L. Achard & Co.
,, 148 pks. J. W. Cook & Co. Ld.

Myrabolams
E. Indies, 620 bgs. J. Greig
,, 300 Hoare, Wilson & Co.
,, 1,850 L. & I. D. Jt. Co.
,, 1,000 pks. Montgomerie & Co.

Naphthaline
Germany, 29 cks. Fleming's Oil Co.

Orchella
Portugal 91 bls. W. Burton & Sons

Shumac
Italy, 25 bgs T. S. Harris & Co.

Tanners' Bark
Adelaide, 35 t. Baxter & Hoare
Natal, 6 A. & W. Nesbitt

Valonia
Turkey, 1 t. L. & I. D. Jt. Co.
,, 130 Boutcher, Mortimore & Co.
,, 50 J. J. Greenstreet
,, 25 W. France & Co., Ld.
,, 10 F. Claydon & Co.
,, 75 Hicks, Nash & Co.
,, 41 A. & W. Nesbitt

Dyestuffs (*otherwise undescribed*)
France, 20 cks. Gellatly, Hankey & Co.

Farina—
Holland, 50 bgs. J. Knill & Co.
,, 100 J. Barber & Co.

Glucose—
U. States, 50 pks. 55 c. L. & I. D. Jt. Co.
,, 50 275 Ohlenschlager Brs.
Holland, 100 100 J. Barber & Co.
U. States, 25 145 Fellows, Morton, & Co.
,, 150 900 Deering & Robottom
Germany, 30 242 M. D. Co.
U. States, 3,775 8,670 R. G. Hall & Co.

Glue—
Holland, £67 G. Rahn & Co.
,, 19 T. H. Lee
,, 55 H. Johnson & Sons
,, 28 Phillipps & Graves
,, 70 J. Barber & Co.
France, 13 Mory & Co.
Germany, 275 L. & I. D. Jt. Co.
,, 152 Steinhoff, Sons & Co.
France, 63 Johnsen & Jorgensen
Germany, 8 Butler's Wf., Ld.
Holland, 95 W. H. Carey & Sons
France, 106 J. Harrison

Lead Acetate—
Germany, 16 cks. T. H. Lee
Manure—
Guadeloupe, 2 t. Chemical Works (Late H. & E. Albert)
Belgium, 85 Lawes Chemical Manure Co.
Mica—
E. Indies, £58 J. W. Cook & Co., Ltd.
" 272 W. M. Smith & Sons
Ceylon, 210 E Davis & Co.
Melbourne, 93 W. M. Smith & Sons
Molasses—
U. States, 5 cks. 10 c. Pickford & Co
" 203 brls. 1,154 C. S. Anderson
Ochre—
France, 20 pks. L. & I. D. Jt. Co.
Holland, 5 Phillipps & Graves
France, 200 cks. W. Harrison & Co.
" 4 Stobbs, Wilson, & Co.
Spain, 78 Hemingway & Co.
Oxalic Acid—
Norway, 90 kgs. S. C. D. Co.
Phosphate Rock—
Belgium, 25 t. B. Jacob & Sons
" 85 Lawes Chemical Manure Co.
France, 180 West & Penrose
Guadeloupe, 3 Chemical Works (Late H. & E. Albert)
Plumbago—
Ceylon, 90 cks L. & I. D. Jt. Co.
" 720 Morgan Crucible Co.
" 36 Powell, Jones, & Co.
" 263 G. S. N. Co
" 106 G. R. Haller
" 135 Marshall & French
Germany, 9 cs. Butler's Wf., Ld.
" 6 cks. G. Mayer & Co.
Ceylon, 332 L. & T. Lightge. Co.
Potassium Carbonate—
Belgium, 100 c. A. J. Luke & Co.
France, 120 W. E. Cole
" 110 J. Barber & Co.
Germany, 203 Gas Light & Coke Co.
" 10 Petri Brs.
France, 50 J. A. Reid
" 160 Petri Brs.
Potassium Permanganate—
Holland, £80 R. W. Greeff & Co.
Potassium Sulphate—
Germany, 99 bgs. Blagden, Waugh, & Co.
Pumice Stone—
Germany, 8 t. Fellows, Morton, & Co.
Italy, 4 G. W. Largen
" 5 W. J. Davies & Sons
" 4 A. E. Narlian
" 3 A. G. Soutter & Co.
" 6 J. Barton-Faithfull
Rosin—
Germany, 27 brls. L. & I. D. Jt. Co
U. States, 4,810 Prod. Brokers' Co.
Saltpetre—
E. Indies, 508 bgs. Perkins & Homer
" 3,310 Lucas & Spencer's Wf.
Germany, 20 cks. P. Hecker & Co.
" 10 kgs. "
Soda—
Germany, 212 c. Typke & King
Belgium, 100 C. Lamb & Co.
Sodium Acetate—
Holland, 23 cks. H. Lorenz
Sodium Bicarbonate—
Holland, 20 c. A. & M. Zimmermann
Starch—
Germany, 330 cs. E & T. Pink
Belgium, 130 F. Claydon & Co.
" 40 Taylor Brs.
Holland, 40 Hernu, Peron, & Co.
" 140 Phillipps & Graves
Belgium, 200 T. H. Lee
" 120 C. Tennant, Sons, & Co.
" 100 Becker & Wagner
Germany, 2,530 Horne & Co.
U. States, 300 bgs. R. G. Hall & Co.
Stearine—
France, 285 bgs. G. Boor & Co.
Belgium, 63 H. Hill & Sons
Sulphur—
Italy, 10 t. J. Kitchin, Ltd.
" 10 F. Smith
" 16 Pigou, Wilks, & Co.
" 3 Soundy & Sons
" 15 F. C. Devon & Co.
" 5 G. Spicer
Sulphuric Acid—
Germany, 37 cks. H. Lambert
Talc—
France, £130 Blackwell & Co.
Tartaric Acid—
Italy, 10 cks. B & F. Wf. Co.
Holland, 8 Kirkpatrick & Co.
" 2 F. C. Devon & Co.
" 34 20 kgs. Kirkpatrick, Barr, & Co.
" 8 B. & F. Wf. Co.
Tartars—
Italy, 16 cks. Thames S. T. & L. Co., Ld.
Ultramarine—
Holland, 2 cs. G. Rahn & Co.
Varnish—
U. States, 10 pks. Williams, Torrey, & Co.
Germany, 6 Phillipps & Graves
Belgium, 1 T. H. Lee
Waste Salt—
Germany, 25 t. Schofield, White, & Co.
White Lead—
Belgium, 96 cks. T. & W. Farmiloe, Ltd.
Holland, 27 H. B. Alder & Co.
" 43 J. W. Cook & Co., Ltd.
Germany, 24 Spies Brs. & Co.
" 24 W. A. Rose & Co.
" 90 Randall Brs.
Belgium, 68 W. Hampton
Austria, 15 Taylor Brs.
Wood Pulp—
Portugal, 250 pks. Page, Son, & East
" 500 Caima Wood Pulp Co.
Sweden, 254 Raby & Mather
" 508 Tough & Henderson
Holland, 8 G. Rahn & Co.
" 36 Thames S. T. & L. Co., Ltd.
Belgium, 1,916 J. Harrison
Canada, 1,303 Furness, Withy, & Co.
Norway, 830 Tough & Henderson
" 40 Becker & Co.
Sweden, 272 C. S. Lovell
U. States, 2,120 Henderson, Craig, & Co.
Sweden, 400 W. G. Taylor & Co.
" 161 M. Dk. Co.
U. States, 605 Pickford & Co.
Zinc Oxide—
Holland, 249 cks. M. Ashby Ltd.
France, 23 G. S. N. Co.
Belgium, 30 Burrell & Co.
" 10 J. W. Cook & Co., Ltd.

LIVERPOOL.

Week ending January 20th.

Acetate of Lime—
New York, 1,047 bgs.
Acetic Acid—
Antwerp, 2 cks. J. T. Fletcher & Co.
Alum—
Antwerp, 20 cks.
Barytes—
Rotterdam, 66 cks.
Antwerp, 53 500 bgs.
Boracic Acid—
Leghorn, 9 cks.
Borax—
Mollendo, 6,488 sks.
" 1,560 A. S. Henry & Co.
Castor Oil—
Genoa, 10 cs.
Calcutta, 100
Chemicals (*otherwise undescribed*)
New York, 2 brls. Midland Rly. Co.
Colours—
Antwerp, 1 ck. J. T. Fletcher & Co.
" 2
Rotterdam, 2 7 pks.
Cottonseed Oil—
N. Orleans, 650 brls.
Cream of Tartar—
Rotterdam 2 cks.
Bordeaux, 27
Oporto, 3
Barcelona, 5 bts.
Dyestuffs—
Cochineal
Las Palmas, 19 bgs. R. Evans & Woodward
Cutch
Singapore, 750 bxs.
Extracts
New York, 5 brls A. Cowley & Co.
Boston, 10
Fustic
Trieste 8 t Evans & Woodhead
Tampico, 1,562 pcs Heaven
" 5,409 Wedemeyer Adof Meyer
Gambier
Singapore, 3,416 bls. 172 bgs.
Indigo
Calcutta, 57 chts.
Orchella
Lisbon, 64 bls.
Saffron
Valencia, 1 cs.
Shumac
Palermo, 125 bgs. J. Kitchin
" 1,050
Valonia
Smyrna, 141 bgs. 70 t.
Patras, 2,966
Glucose—
New York, 213 brls.
Baltimore, 300
Dunkirk, 200 bgs.
Portland, M. 1,350 T. M Duche & Sons
Glue—
Fiume, 80 bls.
Rotterdam, 1 12 bgs.
Boston, 53 cs. Richards & Ward
Rouen, 63 brls. 64 cks. Co-op. W'sale Society, Ld.
Lamp Black—
New York, 100 brls.
Litharge—
Rotterdam, 3 cks.
Manganese Ore—
Visagapatam, 1,180 t. Darwen & Mostyn Iron Co.
Rio de Janeiro, 2,380 Wigan Coal & Iron Co.
Mica—
New York, 10 brls.
Mineral White—
Fiume, 130 bgs.
Ochre—
Rouen, 37 cks. R. J. Francis & Co.
" 40 Co-op W'sale Society, Ld.
Oxalic Acid—
Rotterdam, 12 cks.
Paint—
Boston, 10 cs Guisippe Candia
Hamburg, 30 dms.
Paraffin Scale—
New York, 90 brls. Thompson & Bedford
Plumbago—
Genoa, 180 bgs. Geo. G. Blackwell, Sons & Co
Potash—
Hamburg, 1,610 bgs. H. Tyrer & Co.
Dunkirk, 24 dms. 5 cks.
Rouen, 84 cks Co-op. W'sale Society, Ld.
Pumice Stone—
Leghorn, 12 cs.
Messina, 13 pks.
Pyrites—
Huelva, 6,076 t. Matheson & Co
Rosin—
Brunswick, Ga., 1,925 brls.
Charleston, 501
Trieste, 27 cs.
Salt—
Hamburg, 1,000 cks. H. Tyrer & Co.
N. Orleans, 250 sks. J. Harmon
Saltpetre—
Calcutta, 175 bgs.
Hamburg, 6 cks. 40 kgs.
Soap—
Castellon, 210 cs.
Rotterdam, 1
Bordeaux, 1
N. Orleans, 1,391 brls.
Philadelphia, 2
Naples, 387
Norfolk, Va., 660
Zante, 304 bxs. S. Acratopulo
" 1
Leghorn, 30 cs.
Soapstone—
Bordeaux, 400 bgs. Geo. G. Blackwell, Sons & Co.
Genoa, 200
Starch—
Portland, M., 100 bgs. T. M. Duche & Sons
New York, 800 "
N'port News, 110 brls.
Baltimore, 100 bgs.
Philadelphia, 500
Antwerp, 398 cs
New York 53 brls. J. Armstrong & Co.
Amsterdam, 40 bxs.
Rotterdam, 40 cs.
Hamburg, 80
Stearine—
Rouen, 26 bgs. Co-op W'sale Society, Ld.
Antwerp, 44 J. T. Fletcher & Co
" 13
Sulphur—
Catania, 740 bgs. 74 brls.
Tallow—
New York 69 brls. 350 bds. 175 tcs.
Portland, Me., 50
Boston, 54 39 46
" 75 tcs. Simons Shuttleworth
New York, 250 cs. Armour & Co.
Philadelphia, 250 brls. 510 tcs.
Tartar—
Hamburg, 11 bgs.
Tartaric Acid—
Rotterdam, 17 cks.
Treacle—
Philadelphia, 550 brls.
New York, 1 o
Ultramarine—
Rotterdam, 20 cks.
Hamburg, 1 cs.
Varnish—
New York, 1 bx. Staveley & Co.
Rotterdam, 4 cks.
Verdigris—
Bordeaux, 5 cks.
Waste Salt—
Hamburg, 683 t.
White Lead—
Rotterdam, 20 cks.
Antwerp, 24 J. T. Fletcher & Co.
Wood Pulp—
Christiania, 450 bls. H. Tyrer & Co.
Frederikshald, 3,000 "
Skien, 1,110 "
Oporto, 500 bdls.
Zinc Oxide—
New York, 200 brls.
Antwerp, 95
Zinc White—
Rouen, 1 cs. Co-op. W'sale Society, Ld.

MANCHESTER.

Week ending January 22nd.

Alizarine—
Rotterdam, { 18 cks. 7 brls.
Ammonia—
Rotterdam 80 cylrs.
Aniline Colours—
Rouen, 2 cks
Aniline Salts—
Rotterdam, 4 cks.
Asbestos—
Rotterdam, 3 cs.
Barytes—
Rotterdam, { 60 cks. 200 bgs.
Beta-Naphthol—
Rotterdam { 5 cks. 1 brl.
Bone Ash—
Rio Grande Do Sul, 284 t. J. Gordon & Co.
Caustic Soda—
Hamburg, 33 dms.
Chemicals (*otherwise undescribed*)
Rouen, 33 cks.
Colours—
Rotterdam, { 38 cks. 12 cs. 1 bx. 35 brls.
Cottonseed Oil—
New York, 6 brls.
Cream of Tartar—
Rotterdam, 10 cks.
Dextrine—
Hamburg, 100 bgs.

Extracts—
Hamburg, 100 cs.
Farina—
Hamburg, 100 bgs
Fustic—
Morant Bay, Jamaica, 89 t.
Gelatine—
Antwerp, 5 bls.
Rouen, 1
Glucose—
New York, 600 brls.
Glue—
Antwerp, 2 cks. 20 bls.
Christiania, 100 bgs.
Rotterdam, 20 13 cs.
Indigo—
Rotterdam, 5 chts.
Limestone—
Ghent, 6 cs.
Logwood—
Morant Bay, Jamaica, 428 t.
Savannah La Mar, 404
Laguna, 1,009
Ochre—
Rouen, 15 cks.
Oxalic Acid—
Rotterdam, 15 cks.
Paint—
Alexandria, 42 kgs.
Paraffin Scale—
New York, 756 brls.
Potash—
Hamburg, 35 cks.
Potassium Chloride—
Gothenburg, 12 cks. 30 kgs.
Potassium Prussiate—
Rouen, 3 cks.
Pyrites—
Huelva, 1 413 t.
Saltpetre—
Hamburg, 12 cks.
Shumac—
Palermo, 200 bgs. 100 bls.
Starch—
Hamburg, 260 cs
New York, 2,550 bgs.
Antwerp, 320
Rotterdam, 100
Tallow—
Hamburg, 50 trcs.
Tannic Acid—
Rotterdam, 3 cks.
Hamburg, 7 cs.
Tar Waste—
Rotterdam, 4 cks.
Tartaric Acid—
Rotterdam, 4 cks.
Messina, 4
Treacle—
Rotterdam, 10 brls.
Ultramarine—
Hamburg, 2 cks.
Waste Salt—
Hamburg, 2,000 bgs.
Wood Pulp—
New York, 204 bgs.
Gothenburg, 7,585 bls.
Rotterdam, 400 pks.
Zinc Ashes—
Antwerp, 15 cks.

HULL.

Week ending January 22nd.

Albumen—
Riga, 18 cs.
Barytes—
Antwerp, 88 cks. 50 bgs. Bailey & Leetham, Ld.
Bone Meal—
Bombay, 2,000 bgs.
Chemicals *(otherwise undescribed)*
Hamburg, 10 kgs. Wilson, Sons, & Co., Ld.
Gothenburg, 4 cks. ,,
Bremen, 2 Veltmann & Co.
Antwerp, 28 pks. Wilson, Sons, & Co., Ld.
Cod Oil—
Aalesund, 50 brls. Wilson, Sons, & Co., Ld.
Colours—
Rotterdam, 2 cks.
,, 2 Hutchinson & Son
Ghent, 13 brls. Wilson, Sons, & Co., Ld.
Bremen, 3 cks. Veltmann & Co.
Hamburg, 5 Bailey & Leetham, Ld.
Riga, 235 cs. Wilson, Sons, & Co., Ld.
Rotterdam, 6 bgs. W. & C. L. Ringrose
Antwerp, 27 pks. Wilson, Sons, & Co., Ld.
Copperas—
Bremen, 8 cks.
Cottonseed Oil—
New York, 117 brls. Wilson, Sons, & Co., Ld.
Cream of Tartar—
Rotterdam, 5 cks. Hutchinson & Son
Dyestuffs—
Alizarine
Rotterdam, 10 brls. W. & C. L. Ringrose
Extracts
Riga, 76 cs. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 5,188 bgs.
Farina—
Harlingen, 350 bgs. W. & C. L. Ringrose
,, 250 bls. Hutchinson & Son
,, 100 Wilson, Sons, & Co., Ld.
Hamburg, 50 bgs ,,
Glucose—
Rotterdam, 40 bgs. Hutchinson & Son
Glue—
Rouen, 26 cks. Rawson & Robinson
Dunkirk, 10 Wilson, Sons, & Co., Ld.
Manure—
Rotterdam, 10 bgs. Hutchinson & Son
Ochre—
Rouen, 26 cks. Rawson & Robinson
Paint—
Philadelphia, 30 brls. Anglo-American Oil Co.
Phosphate—
Dunkirk, 915 bgs.
Pitch—
Antwerp, 13 cks. Wilson, Sons, & Co., Ld.
Potash—
Dunkirk, 2 cks. Wilson, 26 pks. Sons, & Co., Ld.
Saltpetre—
Hamburg, 4 cks. Wilson, 5 kgs. Sons, & Co., Ld
Soda—
Ghent, 100 bgs. Wilson, Sons, & Co., Ld.
Sodium Nitrate—
Hamburg, 164 bgs. Wilson, Sons, & Co., Ld.
Starch—
Bremen, 2,421 pks. Veltmann & Co.
Ghent, 249 cs. Wilson, Sons, & Co., Ld.
Amsterdam, 80 Hutchinson & Son
Antwerp, 40 Bailey & Leetham, Ld.
Rotterdam, 42 Hutchinson & Son
Tartar—
Dunkirk, 16 cks. Wilson, Sons, & Co., Ld.
Tartaric Acid—
Rotterdam, 2 cks. Hutchinson & Son
Treacle—
New York, 575 brls. Wilson, Sons, & Co., Ld.
Ultramarine—
Rotterdam, 4 cks. Hutchinson & Son
,, 2 W. & C. L. Ringrose
White Lead—
Antwerp, 26 cks. Bailey & Leetham, Ld.
Amsterdam, 84 W. & C. L. Ringrose
Wood Pulp—
Gothenburg, 79 bls. Wilson, Sons, & Co. Ld.
Hamburg, 720 Bailey & Leetham Ld.
Hango, 316 J. Good & Sons
Zinc Ashes—
Amsterdam, 1 ck. Hutchinson & Son
Zinc Oxide—
Antwerp, 100 cks. Bailey & Leetham, Ld.

GLASGOW.

Week ending January 27th.

Alkali—
Hamburg, 30 cks J. Rankine & Son
Alum—
Rotterdam, 9 cks J. Rankine & Son
Ammonia (Liquid)—
Ghent, 6 dms.
Barium Sulphate—
Antwerp, 300 bks.
Barytes—
Rotterdam, 45 cks. J. Rankine & Son
Hamburg, 200 bgs.
Colours—
Rotterdam, 27 pks. 6 cs. J. Rankine & Son
Hamburg, 2 cks.
Cottonseed Oil—
Baltimore, 50 brls.
Dyestuffs—
Alizarine
Rotterdam, 51 brls. J. Rankine & Son
Aniline
Rotterdam, 7 bxs. 16 brls. J. Rankine & Son
Argols
Bordeaux, 320 bgs.
Extracts
Antwerp, 2 cks.
Indigo
Rotterdam, 3 brls. J. Rankine & Son
Logwood
Savanna-la-Mar, 128 t.
Black River, 420
Gelatine—
Hamburg, 15 cs.
Glucose—
Philadelphia, 1,400 brls.
Glue—
Rouen, 30 cks.
Nantes, 60 pks.
Methyl Alcohol—
Antwerp, 10 dms.
Paint—
Amsterdam, 10 brls. J. Rankine & Son
Paraffin Wax—
Baltimore, 100 brls.
Phosphate Rock—
Bona, 1,000 t. A. Cross & Son
Potash—
Rotterdam, 60 cks. J. Rankine & Son
Pyrites—
Huelva, 1,521 t. Rio Tinto Co.
Soap—
Rotterdam, 30 cs. J. Rankine & Son
Starch—
Antwerp, 40 cs.
Ghent, 30
Rotterdam, 200 J. Rankine & Son
Stearine—
Amsterdam, 124 bgs. J. Rankine & Son
Tartar—
Bordeaux, 13 cks.
Treacle—
New York, 300 brls.
Philadelphia, 200
Aalesund, 3
White Lead—
Rotterdam, 37 pks. J. Rankine & Son
Wood Pulp—
Philadelphia, 513 rolls
Hamburg, 1,015 bls.
Christiania, 3,672 5 cs.
Zinc Sulphate—
½ Rotterdam, 5 brls. J. Rankine & Son
Zinc White—
Rotterdam, 50 cks. J. Rankine & Son

TYNE.

Week ending January 22nd.

Alum Earth—
Hamburg, 44 cks. Tyne S. S. Co.
Colours—
Hamburg, 3 cks. Tyne S. S. Co.
Glue—
Rotterdam. 3 cks. Tyne S. S. Co.
Paint—
Hamburg, 12 dms. Tyne S. S. Co.
Phosphate—
Bona, 1,500 t. Langdale's Chemical M. Co.
Pitch—
Rotterdam, 11 cks. Tyne S. S. Co.
Pyrites—
Huelva, 2,374 t. Scott Bros.
,, 1,719 Tharsis Sulphur & Copper Co.
Wolfram Metal—
Hamburg, 2 cs. Tyne S. S. Co.
Wood Pulp—
Gothenburg, 131 pks.
Christiania, 520 bls.

GOOLE.

Week ending January 19th.

Alizarine—
Rotterdam, 150 cks. 1 cs.
Alkali—
Calais, 2 cks.
Chemicals *(otherwise undescribed)*
Hamburg, 10 cks.
Colours—
Hamburg, 41 cks. 4 cs.
Dyestuffs *(otherwise undescribed)*
Amsterdam, 3 cks.
Boulogne, 36 32 pks.
Rotterdam, 367. 89 cs.
Farina—
Hamburg, 550 bgs.
Delfszyhl, 950
Glucose—
Calais, 200 bgs.
Glue—
Boulogne, 1 ck.
Phosphate—
Dunkirk, 800 bgs.
Potash—
Hamburg, 5 cks.
Calais, 31 dms.
Dunkirk, 24
Rotterdam, 100
Saltpetre—
Hamburg, 20 cks.
Rotterdam, 100 bgs.
Antwerp, 85
Tartaric Acid—
Rotterdam, 7 cks.

GRIMSBY.

Week ending January 22nd.

Albumen—
Hamburg, 6 cks.
Aniline—
Antwerp, 66 pks.
Hamburg, 7
Caoutchouc—
Hamburg, 4 cs.
Chemicals *(otherwise undescribed)*
Hamburg, 2 cks. 2 cs.
Colours—
Antwerp, 3 pks.
Hamburg, 19 cks.
Dyestuffs *(otherwise undescribed)*
Antwerp, 130 cks. 20 pks.
Hamburg, 20
Glue—
Antwerp, 6 bls.
Lamp Black—
Hamburg, 10 cs.
Zinc Ashes—
Antwerp, 17 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending January 26th.

Acids—

New York,	17 pks.		£35
Durban,		10 cs.	20
Hobart,	2		11
E. London,		4	4
Cape Town,		20	54

Alkali—

Lyttelton,	3 t.	5 c.	£16

Alum—

Salonica,	10 t.	2 c.	£57

Ammonia—

Delagoa Bay,		3 c.	£13
Alexandria,	10 cs.		13

Ammonia (Liquid)—

Penang,	4 pks.		£18
Durban,	2 t.	4 c.	62
Dusseldorf,	26 dms.		225
Bombay,	17 cs.		70
Adelaide,	8		12

Ammonium Carbonate—

B. Ayres,	1 t.		£28
Rouen,	5	10 c.	135
Odessa,	160 kgs.		200
Rangoon,	17 cs.		37
Mossel Bay,	4		13

Ammonium Chloride—

Lisbon,		11 c	£17
Melbourne,	1 t.	5	21
Philadelphia,	16	10	244
Salonica,	14 brls.		61

Ammonium Sulphate—

Jamaica,	10 t.		£100
Dunkirk,	200		1,800
Ostend,	42	15 c.	429
Mauritius,	125	11	1,149
Havre,	73		584
Ghent	50	14	475
Bremen,	150		1,475
Antwerp,	50	11	475
Calcutta,	2		21

Arsenic—

Singapore,		10 c.	£12
Hiogo,	1 t.		23

Bismuth Subnitrate—

Yokohama,		4 c.	£110

Bisulphite of Lime—

Durban,	1 t.	17 c.	£24

Bleaching Powder—

Durban,	1 t.		£11
Cape Town,		6 c.	7

Bone Dust—

Martinique,	32 t.	16 c.	£125

Borax—

Nelson,		11 c.	£8
Townsville,	50 kgs.		36
Sydney,	1 t.		18
Melbourne,	2		30

Carbolic Acid—

Boston,	16 cks.		£128
Yokohama,		50 dms.	169
Hong Kong,		20	12
Ludwigshafen,	97		402
Paris,		15 brls.	30
Colombo		6 cs.	10
Newport News,	120		951
Adelaide,		50	10

Carbonic Acid Gas—

Bermuda,	3 cs.		£22
Jersey,		30 tubes	11
Bombay,	10		12
New York,	15		83

Caustic Soda—

Wellington,		14 c.	£32
Hong Kong,		10	15
Durban,	8 t.	3	68
Dunedin,		3	5
Nelson,		7	16
Delagoa Bay,	2	15	20
Pt. Elizabeth,	2	14	63
Cape Town,	1	6	39

Chemicals *(otherwise undescribed)*

Wellington,	8 pks.		£28
Melbourne,		11 cs.	107
Hobart,		1	16
Yokohama,	10 cks.		63
Rio de Janeiro,		10	13
Adelaide,		79	60
Brisbane,	4	43	48
Christiania,	5		68
Dunedin,		13	2 56
Madras,		11	21
Bombay,		16	59
Antwerp,	24		300
Brussels,	5 kgs.		29
Hamburg,	34	31	330
Gothenburg,	2		13
Genoa,	20		109
Cologne,	4		24

Citric Acid—

Durban,		5 c.	£32
Rotterdam,	10 cks.	5	88
Hiogo,		1	6
Pt. Elizabeth,		3 1 cs.	28
New York,	1 t.	10	161
Karachi,		2	17

Coal Products—

Alizarine

Boston,	35 cks.		£381
Pt. Chalmers,		5 cs.	105
Lyttelton,	4	1	110

Aniline

Boulogne,	5 cks.		£36
Pt. Elizabeth,		1 cs.	11
Lyttelton,		1	7
Oamaru,	13 pks.		220

Aniline Oil

Rotterdam,	12 dms.		£420
New York,	15		500

Anthracene

Dusseldorf,	249 cks.		£740
Fremantle,		50 dms.	10
Rotterdam,	607		1,798

Creosote

Newport News,		525 brls.	£370
New York,	500 cks.		344

Naphthaline

Hamburg,	5 cks.		£46
Rotterdam,	100 bgs.		55
New York,	100		56

Pitch

Dunkirk,	181 t.		£172
Gijon,	275		337
Hong Kong,		1,530 brls.	440
Antwerp,	2,470	3 cks.	2,875
Dieppe,	155		271
Delagoa Bay,		100 pks.	33
Alexandria,		200	65
Cette,			1,725

Tar

Mauritius,	30 runlets		£17
Adelaide,		150 dms.	29
Madeira,,	1 ck.		5
Durban,	80		6
Delagoa Bay,	350 pks.		43
Cologne,	200 brls.		95

Tar Dyes

Boston,	3 cks.		£94

Tar Oil

Boston,	250 brls.		£150
Shanghai,	2 cks.		8

Coal Products *(otherwise undes.)*—

Toronto,	1 cs.		£16
Singapore,	25 dms.		24

Copper Sulphate—

Amsterdam,	5 t.		£84
Wellington,	5		83
Bordeaux,	27		450
Christchurch,	1		16
Salonica,	1	3 c.	20
Odessa,	10		170
Paris,	20		336
Antwerp,	10		160
Lyttelton,	5		80

Cream of Tartar—

Dunedin,		5 c	£19
Wanganui,	5 cs.		22
Wellington,		3	12
Canterbury,		5	19
Melbourne,		10	40
Sydney,		10	38
E. London,	2		19

Disinfectants—

Cape Town,	40 cks.		£60
Singapore,	5	100 dms.	77
Durban,	15 cs.	97 pks.	83
Bombay,		30	64
Madras,		4	19
Dunedin,		4	24
Pt. Elizabeth,	13		25
Colombo,	4		14
Bremen,	6 cks.		12
Calcutta,		42	53
Sydney,	6 29	23 26	108

Manure—

Bordeaux,	25 t.		£100
Rouen,	75	10 c.	458
Havre,	30		100
Ghent,	86	11	50
Morlaix,	260		550
Guadeloupe,	880		8,800
Jersey,	5	2	15
Guernsey,	8	2	28
Genoa,	128	16	355
Trieste,	25		75

Nitric Acid—

Jersey,	1 t.	8 c.	£28

Oxalic Acid—

Lisbon,	1 t.	3 c.	£36

Phosphorus—

Lisbon,	3 cs.		£42

Potash—

Stettin,		11 c.	£10
Brussels,		7	52

Potassium Bichromate—

Hiogo,	15 cks.		£62

Potassium Chlorate—

Boston,		5 c.	£9
Bombay,	2 cs.		9
Cape Town,	60		127

Potassium Cyanide—

Rio de Janeiro,	1 t.	10 c.	£225
Durban,	2	3	170
Melbourne,	4	13 75 cs.	1,360
Townsville,	28	16	3,220
Shanghai,		5	45
Pt. Elizabeth,		12	62
Delagoa Bay,	7	19	630
Fremantle,	7		777

Potassium Prussiate—

Cape Town,		4 c.	£12
Rouen,	3 t.		137
Paris,	4	10	146

Salicylic Acid—

Sydney,	4 cs.		£62

Salt Cake—

Antwerp,	140 t.		£245
Ghent,	150		175
Oldenburg,	130		75

Saltpetre—

Nelson,		10 c.	£12
Boston,		11	15
Dunedin,		15	17
Bahia,	15 t.	17	325

Sheep Dip—

Durban,	1,799 dms.		£355

Soda—

Melbourne,		3 c.	£7
Boulogne		4	10

Soda Crystals—

Sydney,	2 t.	15 c.	£9
Colombo,		14	6
Bahia,		5	1

Sodium Bicarbonate—

Nelson,	2 t.		£15
Bahia,	1		8

Sodium Silicate—

Terceira,	5 t.		£17

Sulphur—

Durban,	40 cs.		£14
Cape Town,	1 t.	16 c. 300 cks.	269

Sulphuric Acid—

Aden,	5 cs.		£12

Tartaric Acid—

Pt. Elizabeth,			£28
Karachi,	1 t.	32 cs.	311
Nelson,		4	25
Yokohama,	1	1	118
Hiogo,		5	29
Sydney,		10	59
Adelaide,		2	13
Brisbane,	3 kgs.		25

LIVERPOOL.

Week ending January 26th.

Acetic Acid—

Lisbon,	1 t.	2 c.	£13

Alum—

Madras	18 t.	9 c.	£101
Bourgas,	3	2	16
San Francisco,	20		100
Bombay,	3	10	18
Syra,	1	3 q.	5
Piræus,	7	11	35

Ammonia (Liquid)—

Vera Cruz,		4 c	£5
Cartagena,		2	6
Valparaiso,	3	2 q.	9

Ammonium Carbonate—

Toronto,		10 c. 2 q.	£13

Ammonium Chloride—

Philadelphia,	5 t.	8 c. 2 q.	£163
Rotterdam,	1	11	49
Smyrna,		6	9
Bourgas,	1		29
Patras,		4	6
Melbourne,	1	1	23
Gijon,		10	17
Alexandria,	2		62
Valencia,	1	2	17

Ammonium Sulphate—

Vera Cruz,		10 c. 2 q.	£2
Castellia,	47 t.	10	427
Norfolk, Va.,	51		510
Boston,	61	16	560
Demerara,	156		1,500
St. Louis,	141		1,323
Cullera,	234		2,340
Almeria,	50		500
Venice,	10		92
Genoa,	10	1 2	58
Malaga,	40	9 1	400
Batavia,	121	11 2	1,023
Gd. Canary,	34	9 1	334
Valencia,	45	3 2	392
Las Palmas,	40	5	398

Barium Chlorate—

Antwerp,		9 c.	£31

Bisulphite of Lime—

Rangoon,	9 t.	9 c.	£70

Bleaching Powder—

Aleppo,		4 brls.	
Ancona,		7	
Baltimore,	50 cks.		
Barcelona,	5		
Bombay,		40 bxs. 45 cs.	
Boston	637		
Cadiz,	10		
Cape Town,		40	
East St. Louis,	171		
Genoa,	58		
Ghent,	138		
Lachute,	17		
Leghorn,	32		
Nantes,	31		
Napanee,	21		
Naples,	44		
Newport News,	287		
New York,	362		
Philadelphia,	218		
Samsoun,		10 brls.	
Seville,	10		
Venice,	15		
Vera Cruz,	134		
Pernambuco,		11 c. 3 q.	£4

Borax—

Toronto,	12 t.		£180
New York,	4	6 c.	55
Vera Cruz,	1	1	16
Antwerp,	21		305
Fiume,		15 cs.	37
Tampico,	1		14
Havana,		19 3 q.	17
Barcelona,		2	5

Calcium Chloride—

Fiume,	5 t.	18 c.	£14
Odessa,	10	3	24

Carbolic Acid—

San Francisco,	3 t.	5 c.	£156
Rotterdam,	11		200
Adelaide,		6	31
Cartagena,		4 2 q.	21
Hamburg,	5		327

Caustic Potash—

Cartagena,		2 c.	£4
Sydney,	1 t.	1	32
Melbourne,	1		26

Caustic Soda—

Alexandria,	25 dms.		
Algoa Bay,		22 cs.	
Ancona,	10		
Antwerp,	34	10 brls.	
Bahia,	60		
Barcelona,	330		
Bari,	69		
Beyrout,	50		
Boston,	50		
Calcutta,	40		
Callao,	120		
Cape Town,	17		
Catania,	35		
Corfu,	30		
Delagoa Bay,		15	
Dunedin,	35		
Dunkirk,	70		
E. London,		7	
Fiuem,	30		
Genoa,	65		
Hamburg,	15		
Havana,	70		

Hiogo,	530			
Hong Kong,	15			
Kingston, Ja.,	8			
Leghorn,	98			
Lisbon,	95			
Louisville,	50			
Madrid,	200			
Messina,	70			
Monterey,	30			
N. Orleans,	100			
New York,	250			
Oporto,	38			
Para,	22			
Petrolia,	35			
Pt. Elizabeth,				55
Pt. Natal,	13	3 pks.		
Porto Alegre,	50			
Rangoon,	11			
Reval,		40		
Rio de Janeiro,	20			
Rio Grande Do Sul,	20			
San Francisco,	50			20
Savanilla,	24			
Shanghai,	36			
Sydney,	175			
Valencia,	65			
Venice,	45			
Vera Cruz,	60			
Vigo,	6			
Volo	2			
Wellington,	18			

Chemicals (*otherwise undescribed*)

Karachi		15 c.		£23
Calcutta,	10 t.	18	3 q.	36
Naples,	1			31
Philadelphia,	13	7		402
Alexandria,	3			93

China Clay—

Baltimore,	448 cks.			
Barcelona,	104	20 bgs.		
Bombay,	539			
Boston	1,504	217		
Calcutta,	140			
New York,	250			
Pernambuco,	30			
Philadelphia,	629			
Portland, Me.,	500			
Rio de Janeiro,	80			
Vera Cruz,	100			

Chromium Trioxide—

Antwerp,		6 c.		£19

Citric Acid—

Brisbane,		1 c.		£7
Reval,	1 t.			110
M. Video,		1	1 q.	5

Coal Products—

Aniline Colours

New York,	4 cks.			

Aniline Oil

East St. Louis,	20 dms.			
Philadelphia,	15			

Aniline Salts

Barcelona,	10 sks.			
Boston,	53 cs.	5 dms.		

Creosote

Bordeaux,	250 cks.			

Tar

Barcelona,	13 cks.			
Hamburg.	99 brls.			
Philadelphia,	250			

Coal Products (*otherwise undes.*)—

New York,	11 cks.			

Copper Sulphate—

Vera Cruz,	1 t.			£15
Algiers,	1	2 c.		19
Libau,	4	3		64
Melbourne,	4			72
Bombay,	2	10		40
Ghent,	3	18	3 q.	65
Ancona,	13	19	3	234
Odessa,	4	15	3	77
Vancouver,	1	2		17
Fiume,	14	17	3	241
Porto Alegre,	2	9	1	39
Hamburg.	12	11	1	203
Valparaiso,	11	9	3	193
Syra,	3	2	2	50
Zante,	4		1	64
Messina,	3	1		48
Palermo,	13	4		211
Cataeoly,	1			16
Chalkis,	3			48
Rouen,	27	13	2	460
Callao,		13	2	11
Naples,	145	9	3	2,340
Bari,	12	6		194
Singapore,	1	5		21
Vigo,	22	2		368
Genoa,	177	8	2	2,888
Patras,	39	13	2	612
Venice,	74	17	1	1,214
Leghorn,	59	11	2	918
Rotterdam	50	5	1	795
Lisbon,	58	2	3	937
Piræus,	26	18	2	429
Oporto,	11	1	1	167
Bordeaux,	179	5	2	2,935
Trieste,	104	4	3	1,491

Copperas –

Vostizza,	1 t.			£3
Karachi,	14			35

Cream of Tartar—

Cartagena,		2 c.		£10

Dried Blood –

Gd. Canary,	3 t.			£16

Ferric Oxide—

Maceio,		5 c.	2 q.	£6

Lead Acetate—

Piræus,		10 c.		£16

Magnesia –

Cartagena, Sp.	6 cs.			
Paris.	60			

Magnesium Chloride –

Genoa,	7 t.	6 c.		£17

Magnesium Sulphate—

Lisbon,	43 bgs.			

Manure—

Gd. Canary,	4 t.	15 c.		£40
Las Palmas,	82	5		544
Providence, R.I.,	4	10		61
Rochefort,	25	4	1 q.	104
Cherbourg,	10	16	3	48

Muriatic Acid—

Cartagena,		2 c		£3

Oxalic Acid—

Philadelphia,	12 t.	18 c		£348

Paint—

Adelaide,			8 cks.	
Alexandria,	70 pks.	60 dms.		
Antwerp,	45			
Axim,		2 kgs.		
Calcutta,	70			
Cavite,			19	
Curacao,		20		
Dunedin,		16 cs.		
Lisbon	65			
Maceio,	3		10 brls.	
Madrid,	1			
Manila,			11 cks.	
Providence,		1		
Rio de Janeiro,			22	
Sierra Leone,		116 kgs.		
Sulymah,			36	
Tripoli.	46			
Valparaiso,	321	310		
Warri,	19			
Yloilo			12	

Painters' Colours –

Baltimore,			40 cks.	
Barbadoes.	14 pks.			
Baranquilla,		45 kgs.		
Beyrout,	10			
Bombay,	775	1,758		
B. Ayres,	10			
Delagoa Bay,			50	
Manaos,	12			
New York.	101 brls.			
Pernambuco,		28		
Pt. Natal,		50		
Rangoon			2	
Rio Del Rey,	2 dms.			
Rosario,	60 bgs			
Samsoun,		13		
San Francisco,			10	

Paraffin Wax—

Bari,	30 bgs.			
Constantinople,	60			
Leghorn,	30			
Scio,		10 cs.		
Smyrna,	5			

Phosphorus –

B Ayres,	1 t.	2 c.		£120
Tampico,		15		165
Shanghai,	3	3		630
Hiogo.	4			920
Hong Kong,		2		27

Picric Acid—

San Francisco,	2 t.	6 c.	2 q.	£230

Potassium Bichromate –

Montreal,	4 t.	18 c.	2 q.	£84
New York,		2		4
Samsoun,	3 cks.			42
Smyrna,	1 t.	4		45
Tampico,		4		9
Rouen,	5		1	186

Potassium Carbonate—

Para.	4 t.	7 c.		£23

Potassium Chlorate—

Ancona	1 t.			£32
Bari,		10 c.		16
Hong Kong,	1	5		38
Yokohama,	10			204
Shanghai,	5	10		163
Paranagua,		15		24
Santos,	1			36
New York,	29	17		838
Libau,	15			426
Cartagena,		5		10
Sydney,	1	10		48
Philadelphia,	8	15		242
Mollendo,		9		18
Hiogo,	66	5		1,808
Vera Cruz,	2	10		75

Potassium Cyanide –

Madras,		13 c.	2 q.	£40

Salt—

Accra,	400 bgs. / 12 t.	10 c.		
Abonnema,	45	14		
Ambrizette,	16			
Antwerp,	125			
Axim,	37	10		
Bahia,	2	3		
Bahia,	7	6		
Barbadoes,	200			
Boston,	100			
Brass,	7	10		
B. Ayres,	26			
Bugunia,	35	14		
Calcutta	175			
Cameroons,	92	3		
C. C. Castle,	25			
Cape Lahou,	8	10		
Chittagong,	4,500			
Conakry,	170	10		
Copenhagen,	758			
E. London,	22			
Fuca.	20			
Galveston,	800			
Ghent,	400			
Gd. Lahou,	17			
Lagos,	56	5		
Leghorn,	100			
Manila,		10		
Manoh	80	1		
Matadi,	15			
Melbourne,	27	3		
Mossel Bay,	25			
Mussera,	16			
New York,	40			
Noqui,	40			
Opobo,	120			
Old Calabar,	227	15		
Para.	200			
Portland, Me.,	97			
Rangoon,	1,135			
Rosario,	3	6	50 cs.	
St. John's, N.B.,	442			
St. John's, N'fld.	5			
Salt Pond,	12	7		
San Francisco,	88	9	5 cks.	
Santos,	1	1		
Sherbro,	120	11		
Sulymah,	11	12		
Sydney,	280			
Talcahuano,		4		
Trinidad,	42	8		
Valparaiso,		200 cs.		
Victoria, B. C.,	50			

Salt Cake—

Baltimore,	88 t.	8 c.		£133
Leghorn,	100			195

Saltpetre—

Toronto,	1 t.	12 c.	2 q.	£33
Porto Alegre,	1	2	1	22
Sydney,	2			42

Sheep Dip—

Portland, O.,	8 t.			£192
B. Ayres,		12 c.	2 q.	15

Soap—

Accra,	450 bxs.			
Akassa,	24			
Alexandria,	80	6 cs.		
Algoa Bay,	127			
Amboina,	1,100			
Amsterdam.		315		
Antigua,	50			
Axim.	100			
Barbadoes.	1,200			
Barranquilla,		3		
Bluefields,	500			
Bombay,	1,065	186		
Calcutta,			256 pks.	
C. C Castle,	460			
Cape Town,	1,612			
Chefoo,	45			
Demerara,	270			
Dominica,	20			
E. London,	3,000	33	3 bdls.	
Forcados,	20			
Genoa	100			
Gibraltar,	100			
Gd. Lahou.	100			
Grenada, Nic.,	119			
Guayaquil,		56		
Karachi,	400		119 pks.	
Lagos,	150			
Madras,			28	
Manila,		1		
Manaos,	685			
Melbourne,		5		
Montego Bay,	50			
Mossel Bay,	150			
Noqui,	40			
Panama,		1		
Para,				67 bdls.
Patras,		18		
Penang,	205			
Porto Novo,	50			
Pt. Natal,	378			
Principala,	100			
Rangoon,		518		
Rawal Pindi,		12		
Rotterdam,		150		
St. John's, N'fld.,	40			
St. Lucia,	225			
St Thomas,	350			
Salt Pond,	100			
Sassandra,	50			
Sapeli,	250			
Shanghai,	5,777			
Sierra Leone,	151			
Singapore,	500			
Smyrna,	10			
Trinidad,	1,020			
Valparaiso,	22			
Warri,	200			
Zanzibar,				125

Soda Alkali—

Barcelona,				35 dms.
Bilbao,		35 brls.		
Gothenburg,				30 cks.
Leghorn,		35		
Madrid,		50		
Toledo,		40		

Soda Ash—

Barcelona,				37 cks.
Beyrout,		25 brls.		
Bombay,				26
Boston,	50 pks. / 640 bgs.			172
B. Ayres,		201		
Calcutta,	100 kgs.			537
Copenhagen,	300 bgs.			
Delftshaven,	1,334			
Genoa,	1,040			
Ghent,	232			
Hiogo,				100
Lisbon,				10
Melbourne,				50
Newport News,				33
N. Orleans,	400			
New York,	2,900			14
Para,		11		12
Pelotas,				30
Philadelphia,	380	183 tcs.		
Piræus,		100 brls.		
Porto Alegre,				120
Rio Grande Do Sul,				40
Rotterdam,				20
Sydney,				278
Syra,		50		
Tarragona,				30
Trenton,		13 tcs.		
Volo,		20 brls.		

Soda Crystals –

Alicante,				10 cks.
Boston,	qty.			
B. Ayres,	35 kgs.			
Cairo,		20 brls.		
Calcutta,	362			
Fremantle,	120			40
Gibraltar,	20 bgs.			
Malta,		50		
Mersina,		40		
New York,				280
Philadelphia,				140
Rangoon,	20 kgs.			
St. John's, N'fld.,	70 pks.			
Salonica,		134		
Sydney,	134 kgs.			

Soda Oxide—

Reval,		6 cs.		

Sodium Bicarbonate –

Adelaide,	157 kgs.			5 cks.
Aleppo,	7			
Alexandria,	200	50 brls.		
Alicante,	70			
Bombay,	362			100
Bordeaux,		10		
Cairo,		50		
Calcutta,	362			
Fremantle,	44 bgs. / 20 kgs.			10
Genoa,				25
Halifax,	207			
Hamburg,	80			
Karachi,	250			
Lisbon,	40			
Melbourne,	50 bgs. / 625 kgs.			11
Messina,		10		
Nantes,				35
Naples,	30			

Oporto, 30 pks.
Panama, 9 kgs.
Paris, 74
Perth, 20 bgs.
Philadelphia, 35 kgs.
Rangoon, 15 bgs. 21
Rio de Janeiro, 6 kgs.
Salonica, 27
Samarang, 5
Santos, 450
Singapore, 10
Sydney, { 530 / 50 bgs. 18
Syra, 27 pks.
Vancouver, 6

Sodium Bichromate—
Montreal, 14 cks.

Sodium Carbonate—
Boston, 56 brls.
Chicago, 60

Sodium Chlorate—
Antwerp, 5 kgs.
Boston, 200
Philadelphia, 25
Santos, 1 ck.

Sodium Hyposulphite—
Lisbon, 4 cks.

Sodium Silicate—
Bombay, 10 brls.

Starch—
Scio, 10 cs.

Sulphur—
Pernambuco, 5 t. 14 c. 1 q. £38
New York 1 20
St. John's, N'fd, 10 1 44
Antwerp, 10 46
Ghent, 10 1 46
St. John's, 3 14
Boston, 100 1 500

Sulphuric Acid—
Cartagena, 6 glns. £2

Superphosphates—
Gd. Canary, 6 t. £21
Valencia, 370 9 c. 1 q. 733
Teneriffe, 5 13
Cape Town, 200 600
Rochefort, 275 1 2 490
Cherbourg, 589 5 1 1,060
Havre, 150 1 270
Genoa, 297 16 2 606
Venice, 1,649 19 1 2,783

Varnish—
Antwerp, 2 cks.
Cadiz, 2 cs.
Valparaiso 5 dms.

Zinc Chloride—
Bombay, 3 t. £75

MANCHESTER.

Week ending January 26th.

Alum—
Bombay, 313 brls.

Ammonium Carbonate—
Bale, 14 kgs.

Ammonium Chloride—
Belgium, 2 cks.

Aniline Colours
Belgium, 2 kgs.
France, 10 tins 5 dms.

Aniline Salts—
Germany, 6 pns.

Beta-Naphthol—
Belgium, 3 kgs.

Glue—
Germany, 12 cks.
Bombay, 1
Holland, 12

Manure—
Belgium, 60 bgs.

Naphthol—
Germany, 15 cks.

Paint—
Bombay, 2 kgs.

Pitch—
Belgium, 8,077 c.
France, 15 588

Sodium Naphthionate—
Germany, 6 cks.
Switzerland, 30

Sulphur—
Sannesund, 888 bgs.

Tallow—
Bombay, 6 cks.

HULL.

Week ending January 22nd.

Alkali—
Bergen, 6 cks.
Palermo, 20
Venice, { 27 / 50 bgs.
Trieste, 139 dms.

Ammonia—
Gothenburg, 15 kgs.

Ammonium Sulphate—
Antwerp, 960 bgs.
Ghent, 1,035
Venice, 300

Anthracene—
Amsterdam, 39 cks.

Carbolic Acid—
Amsterdam, 50 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 6 cs.
Amsterdam, 100 cks.
Copenhagen, 10 40 pks.
Christiania, 380 slbs.
Gothenburg, 36
Hamburg, 58 225
New York, 60 7 dms
Rotterdam, 100 kgs. 30
Reval, 1

China Clay—
Riga, 3 cks.

Coal Products (*otherwise undes.*)—
Bremen, 17 cks.

Cottonseed Oil—
Antwerp, 884 c.
Bremen, 237
Christiania, 16
Ghent, 102
Hamburg, 609
Rotterdam, 670
Stettin, 166
Stavanger, 35
Trieste, 903
Venice, 7

Dyestuffs (*otherwise undescribed*)
Rotterdam, 5 cks.

Linseed Oil—
Antwerp, 116 c.
Amsterdam, 104
Copenhagen, 35
Christiania, 13
Hamburg, 210
Trieste, 71

Manure—
Dunkirk, 1,068 bgs.
Guernsey, 2 t.
Venice, 2,021

Mineral White—
Amsterdam, 50 bgs.
Harlingen, 200

Painters' Colours—
Antwerp, { 169 cks. 3 pks. / 55 cs 45 dms.
Amsterdam, 1 2
Bremen, 10 647 pks.
Bergen, 68 dms.
Copenhagen, 8
Christiania, 2 32
Dunkirk, 2
Ghent, 8 7 80
Gothenburg, 12
Hamburg, 15
Messina, 10
Rotterdam, 45
Stettin, 6
Venice, 27

Paraffin Wax—
Stockholm, 20 cks.

Pitch—
Antwerp, 194 t.
Dunkirk, 200

Sheep Dip—
Palermo, 2 dms.

Tar—
Amsterdam, 35 brls.
Copenhagen 15 cks.
Hamburg, 12
Stettin, 7 tins

Turpentine—
Gothenburg, 20 cks.

Varnish—
Antwerp, 5 cks. 6 cs.
Ghent, 1
Hamburg, 1
Harlingen, 1
Stettin, 15

GLASGOW.

Week ending January 27th.

Acids—
Bombay, £1,650

Ammonium Carbonate—
Christiania, £28

Ammonium Sulphate—
Barcelona, 40 t. 7¼ c.
New York, 26
U.S.A., 71 11
Cullera, 491 12½
Valencia, 64 17¼
Hamburg, 101 9

Bleaching Powder—
Calcutta, 24 t. 19½ c.

Borax—
Natal, £33 13s.
Rotterdam. 1 t.

Coal Products—
Creosote Oil
France, £1,835
Pitch
Amsterdam, 300 t.
Antwerp, 760
France, £150
Italy, 160
Civita Vecchia, 29
Hamburg, 10 6 c.
Tar
U.S.A., £48
Drontheim, 5 t. 12 c.

Dyestuffs (*otherwise undescribed*)
Victoria, 41 t. 18 c.

Extracts—
Barcelona, £117

Gelatine—
Canada, £73

Guano—
Cullera, 148 t. 2 c.

Iodine—
Rotterdam, £1,300

Lead Nitrate
Amsterdam, £9

Linseed Oil—
Egypt, 2 t. 1¾ c.
Rio de Janeiro, 4 3

Manure—
Oporto, 23 t. 7½ c.

Ochre—
Rouen, £25

Paint—
Hong Kong, £45 10s.
Rio de Janeiro, £38
Singapore, 69
Calcutta, £45 10s.
New York, £66
Sydney, 158

Painters' Colours—
Bombay, qty.
Pt. Elizabeth, ,,
Amsterdam, £16
Hiogo, ,,
Shanghai, £24 13s.
Singapore, £28
Perth, 32

Paraffin Wax—
Fiume, £975
Trieste, 972
Amsterdam, 120
Christiania, 40
Barcelona, 127
Bordeaux, 71
Italy, 1,296
Sicily, 20

Potassium Bichromate—
Rouen, £295
Amsterdam. 2 t. 9 c.
Rotterdam, 2 1
Barcelona, 581
Hiogo, 743
Rio de Janeiro, 77

Potassium Cyanide—
Melbourne, £329
Sydney, 280

Potassium Prussiate—
U.S.A., £142

Potassium Sulphate—
Delagoa Bay, £45

Soap—
Algoa Bay, 2 t. 4½ c.
Antigua, 2 15
Fiume, 2 5¾
Johannesburg, 2 3¾

Sodium Bichromate—
Rouen, 12 t. 14½ c.
Amsterdam, 18
Barcelona, 15

Sodium Sulphate—
Brisbane, £20

Starch—
Rotterdam £107

Tallow—
Rotterdam, 105 t.

Treacle—
Bergen, 2 t. 14 c.
Christiania. 15 14
Gothenburg, 9 5
Transvaal, 15 c.

Varnish—
Melbourne, £83
Sydney, 40

White Lead—
Melbourne, £25 15s.
Natal, £140

TYNE.

Week ending January 22nd.

Alkali—
Amsterdam, 13 t. 18 c.
Copenhagen, 10 3

Aluminous Cake—
Gothenburg, 1 t.

Anthracene—
Rotterdam, 24 t. 12 c.

Antimony—
Amsterdam, 1 t. 10 c.
Barcelona, 1
Rotterdam, 8 10

Arsenic—
Barcelona, 2 t. 2 c.

Asbestos—
Bergen, 6 c.

Barium Binoxide—
Barcelona, 1 t. 3 c.

Bleaching Powder—
Aarhuus, 1 t. 10 c.
Amsterdam, 3 18
Antwerp, 31 4
Bergen, 30
Copenhagen, 3 1
Gothenburg, 30 4
Hamburg, 5 11
Rotterdam, 27 11

Carbolic Acid—
Bergen, 2 c.

Caustic Soda—
Aarhuus, 1 t. 3 c.
Antwerp, 17 14
Copenhagen, 2 18

Litharge—
Amsterdam, 11 c.
Copenhagen, 1 t. 12
Hamburg, 2

Magnesia—
Barcelona, 11 t. 16 c.
Hamburg, 1 4

Naphthaline—
Copenhagen, 13 t. 19 c.

Paint—
Hamburg, 1 t.
Rotterdam, 15 c.

Soda—
Aarhuus, 8 t.
Rotterdam. 17 14 c.

Soda Ash—
Konigsberg, 28 t. 3 c.

White Lead—
Gothenburg, 12 c.

GOOLE.

Week ending January 19th.

Chemicals (*otherwise undescribed*)
Amsterdam. 20 cks.

Coal Products (*otherwise undes.*)—
Amsterdam, 1 dm.
Antwerp, 2 cks
Boulogne, 13 2 cs.
Ghent, 10 4
Hamburg, 10 1
Rotterdam 99 2

Colours—
Dunkirk, 6 cks.
Ghent, 1 cs.
Rotterdam, 11

Manure—
Ghent, 555 bgs.

Pitch—
Antwerp, 791 t.
Dunkirk, 242

GRIMSBY.

Week ending January 22nd.

Chemicals (*otherwise undescribed*)
Antwerp, 10 kgs.

Coal Products (*otherwise undes.*)—
Dieppe, 60 cks. 106 brls.
Hamburg, 20 bts.

Colours—
Antwerp, { 20 cks. 1 cs. / 5 kgs. / 2 pks.
Hamburg, 2 " "
Rotterdam, " "

PRICES CURRENT.

WEDNESDAY, FEBRUARY 2ND, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
" Glacial	"		39/-	
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¾
Oxalic	nett "	0	0	3½
Phosphoric, 1750°	"	0	0	11½
Picric	"	0	0	11
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	1½
Arsenic, white powdered	nett. per ton	21	0	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	0	0
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	18	0	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	25	&	33/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	10	3	9
" " (grey) Hull	"	10	3	9
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt "	"	0	0	4¾
Antimony	per ton	30	5	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	15	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6 to 65/-		
Bleaching Powder, 35 %	nett "	6	0	0
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	12	0	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	"	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	6
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	6
Benzol, 90's	per gallon	0	1	3½
" 50/90 "	"	0	1	6
Carbolic Acid (crude 60°)	per gallon	0	2	0
" (crystallised 40°)	per lb.	0	0	7¼
" (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	3
Crude Naphtha 30 % @ 120° C.	"	0	0	8½
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	"	2	8	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	3	9
" Sulphate	"	16	10	0
" Oxide (copper scales)	"	44	10	0
Glycerine (crude)	"	22	10	0
" (distilled S.G. 1250°)	"	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	13	12	6
" Litharge Flake (ex ship)	"	16	0	0
" Acetate (white ")	"	23	0	0
" " brown ")	"	17	0	0
" Carbonate (white lead) pure	"	17	0	0
" Nitrate	"	20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
" " (grey) (ex ship	"	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	"	16	0	0
" Borate	per cwt.	2	10	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	9
" " Miscible, 60° O.P	"	0	3	7
Oils:—				
Cotton-seed	per ton	15	0	0
Linseed	"	16	10	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	2	0
" (red)	"	0	2	9
Potassium (metal)	per oz.	0	3	7
" Bichromate	nett per lb.	0	0	4¼
" Carbonate, 90% (ex ship)	per ton	16	5	0
" Chlorate	per lb.	0	0	3½
" Cyanide, 98%	"	0	1	1
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	10	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (renned)	per cwt.	1	1	6
" Permanganate	per cwt.	3	15	0
" Prussiate Yellow	per lb.	0	0	6¾
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % (do.)	"	8	15	0
Silver (metal)	per oz.	0	2	2
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton (o.b. w'ks.)	4	15	0
" " (Caustic Soda-ash) 48 %	" " (o.b. w'ks.)	4	5	0
" " (Carb. Soda-ash) 48%	" " (o.b. w'ks.)	4	0	0
" " (Alkali) 58 %	" " (o.b. w'ks.)	3	17	6
" " (Soda Crystals)	" " (o.b. w'ks.)	2	5	0
" Acetate (ex-ship)	"	11	15	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	4¼
" Borate (Borax)	net, per ton.	13	0	0
" Bichromate	per lb.	0	0	3⅝
" Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton (10 ton lots)		8	10	0
" " (74 % Caustic Soda) " " " (10 ton lots)		8	2	6
" " (70 % Caustic Soda) " " " (10 ton lots)		7	5	0
" " (60 % Caustic Soda) " " " (10 ton lots)		6	5	0
" " (pure liquor 90° Tw.) " " " (10 ton lots)		3	15	0
" " 77/78 % powdered (99 % hydrate)	"	12	0	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
" Nitrite, 98 %	per ton	26	10	0
" Phosphate	"	9	10	0
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	18	0
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅝
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	"	6	5	0
" Brimstone: Best Quality	"	4	10	0
Superphosphate of Lime (26%)	"	2	5	0
Tallow (Beef)	"	20	0	0
Tin Crystals	per lb.	0	0	4¾
" English Ingots	per ton	65	0	0
Zinc (Spelter)	"	18	0	0
" Chloride (solution, 100° Tw.)	"	5	15	0
" Sulphate, Crystal	"	5	15	0

THE

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AND

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CURRENT TOPICS.

THE EDINBURGH WATER TRUSTEES' CASE.

IN our columns this week a full report of a most interesting case will be found. It is positively astonishing to find that it is possible for industrial affairs to be so upset by the gross ignorance of a public body like the Edinburgh Water Trustees. The facts of the case in brief are simple. Under the terms of the Waterworks Clauses Act mineowners are bound to give notice when their workings come within forty yards of the water-pipe, and upon such notice the Trustees have the option of purchasing the underlying and contiguous mineral for the protection of the pipe at a price. If, however, the Trustees elect not to purchase the mineral, and the mine should become flooded by the pipes, then the mineowner would have a claim for damages, provided he had mined in a "usual and proper manner." The Trustees ignored all these obvious legal facts, and when things became inconvenient, stopped the Clippens Oil Company from mining by an interdict obtained in the Outer Court, which had reference to limestone mining and not to the shale. Having thus practically compelled the Company to close their mines, the Trustees applied to the First Division of the Court of Session for the full interdict. Here they met with a most deserved reversal, for not only was the interdict against the limestone cancelled, but the Trustees were robbed of every shadow or semblance of a case. The wonder is how they could have been so hopelessly ignorant of how to fulfil their trusteeship. The unfortunate part of it all is that not only has public money been wasted, but it has been expended in persecuting and injuring an important industrial concern, which has had to bear serious and substantial losses in the way of depreciation, caused by the stoppage of the mines and oil works, and losses due to permanent liabilities which do not cease with the suspension of working operations. Who is to pay the piper? The Oil Company or the vanquished and negligent Trustees? Truly, nothing is more terrible than active ignorance.

FISH OIL AND FINANCE.

Since the American Fisheries Company has come to the front, there have been a great many rumours about to the effect that the whole affair was "fishy." The company is practically the American development of the Stanley fish-oil and guano process. The report of the parent company, which held a special meeting of shareholders this week, is recorded elsewhere in this issue, and it truly throws a very different light on the matter to the lurid flare that certain sensational organs have tried to raise by their vapourings. We have no cause to consider the American Fisheries Company more favourably than the rest of the world. Its flotation has nothing to do with the merits or demerits of the Stanley process itself (on which we have already passed an opinion), and, judged apart from this, we really see no cause

for hysterics. We have no desire to speak one way or the other about the probable future of the Company, but it seems a very simple matter. If the general opinion of those gentlemen who pose as our financial Achates is that it is not a good thing for British investors, they can quietly give it the go-by. No doubt the influential American Board can get what capital they want at home, if the Britisher does not feel disposed to contribute.

As a matter of fact it has been subscribed. How far the subscribers will benefit by their speculation it is impossible to say at present. Judging by the financial mentors, they have thrown their money away. It is not easy to understand, at first sight, w y there should have been such a howling about a venture that at least compares favourably in the matter of prospects with the majority of ventures. The adoption of this attitude would seem to indicate an undercurrent of disappointment among those who have decried the loudest. We are inclined to think that their hostility will have done much more good to the company than they might have done harm by the damaging influence of a faint-praise policy. However, the company has yet to make or mar its fortune, and time alone can prove whether the directorate and the business acquired are as sound as they appear to be at present. If the wiseacres of Throgmorton-street are justified of their forecast, we shall not fail to seek for the cause of the downfall and learn the lesson it teaches, though it may necessitate eating the bread of humility.

PLATINUM THEFTS IN RUSSIA.

A FEW days ago a case came before the district court of Ekaterinburg (Oural) arising out of the theft of platinum amounting to several million of roubles. In the course of the proceedings the fact came to light that no less than a quarter of the total amount of platinum found in the Oural had been stolen.

The alleged chief offender, a merchant named Anziferow, had a yearly output of about 2 poods from his small mine, and, considering that the price of a pood of this valuable metal is 10,000 roubles, his profits were not small. He, however, it was stated, during a period of six months, sent a quantity of 12 poods to a St. Petersburg house, and thus did the State out of 45,000 roubles in taxes. It is true that a few mine owners sold to Anziferow inconsiderable quantities of ore, but where the greater part came from could not be discovered. It was, moreover, noticed that the consignments were always dispatched in a somewhat mysterious manner, so that the authorities could not ascertain the contents of the parcels. Their suspicions were eventually aroused, and it was decided to retain one of these packages and to hand it over to an expert, who declared it to be platinum coming from the mines belonging to Prince San Donato.

This was a new revelation, as the Prince's total output had been exclusively sold to England. How did Anziferow obtain the metal? That was the question. At the trial everything was revealed. Foremen and workmen of the San Donato mines competed with each other in stealing and supplying the booty to Anziferow. The same procedure took place in other mines, and it was explained how it was possible to export yearly about 100 poods of platinum more than was registered in the mining department. Anziferow was found guilty, and has received the maximum penalty of the law.

Platinum reefs, it may be said, are almost exclusively to be found in the Oural mining districts of Perm and Verkhotourie. As soon as extracted the platinum ore is sent to the Oural refinery, where it is examined for its gold and for the duties amounting to from 3 to 4½ per cent. The latter are paid in kind. In 1895 the Treasury received 9 poods 10 lb. of platinum, of which in October, 1895, 8 poods 29 lb were sold at the price of 8,200 roubles the pood.

Nearly the whole Russian output is refined abroad. In 1894 the only two Russian refineries worked out 9 poods 16 lb. ore, which yielded 7 poods 8 lb. platinum. The price of this valuable metal is subject to considerable fluctuations, and it is very difficult to estimate the yearly output in the Russian Empire. Perhaps the figure of £250,000. to £300 000. might cover it.—*Financial News.*

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE fourth meeting of the session was held on Friday, the 4th inst., in the Chemical Theatre, Owens College, when Dr. Grossmann read a paper on "The Treatment and Disposal of Town Sewage." In the first place, reference was made to the great variation there was, not only in the quantity, but the quality of sewages, especially in manufacturing districts. Even domestic sewage varied greatly. Stress was laid on the fact that in making comparative tests the sewage must be tested as soon as possible after sampling, otherwise misleading results were obtained. Reviewing precipitation processes, it was pointed out that the chief difference between them was the precipitant. Dr. Grossmann objected to the employment of the absorbed oxygen test as a measure of the efficacy of sewage processes. Both this test and the "ammonia" tests were designed for potable waters, yet all processes, whether chemical, bacteriological, or what not, were based on these tests. They were all very well for detecting sewage in water, but he could not understand how they could be reasonably applied to the testing of sewage itself. In criticising the bacteriological process, he objected to the solids not being removed first, and gave figures showing how the solids must accumulate. Also, the bacterial process involved the total destruction of the nitrogen compounds present in the sewage, which he calculated meant a loss of £30 000 per day to this country. He admitted that much of these valuable ingredients could not be recovered, but he deemed it unwise, at this stage of development, to adopt a system that was bound to waste the whole. In the future, a portion at least might be recovered by some new process. Considering the present state of the Ship Canal, and also the fact that all effluents, however obtained at present, were just alkaline enough to encourage the growth of bacteria, he suggested treatment with an excess of lime and sterilizing the effluent with sulphurous acid. In this way, heavy capital outlay was deferred until the future had thrown more light on the difficult subject of sewage disposal. From experiments he had made, he was inclined to think that the sludge could be utilised so as to largely cover the cost of the additional precipitant. He had found that 40 to 45 grains of lime per gallon formed a sludge that settled quickly (and so required smaller settling tanks). The sludge was also more easily filter-pressed. Some of the sludge was distilled before the members, the tar and ammonia separated, and the gas given off was collected and burnt from an ordinary burner. The residue contained about 7% of carbon, and a small percentage of phosphate of lime, two-thirds of which were soluble in citrate. The following estimate was thrown on the screen :—

Dr.		Cr.	
Lime	£32	750,000 c. ft. Gas	£47
Pressing	35	7 tons Am/S	42
Labour	20	150 tons Residue	60
	£87		£169

Dr. Grossmann finally advocated State intervention in the matter of sewage disposal, supporting his contention with extracts from an essay by Mr. W. Stanley Jevons, and suggested the Society forming a committee of investigation both in regard to processes for treating and the testing of sewage.

In opening the discussion the Chairman (Mr. George E. Davis) referred to the Society of Arts Sewage Conference held some years ago, from which it appeared that there were heaps of excellent processes in view, but they had all proved failures. Mr. J. C. Bell referred to experiments he had been making at Salford with lime, which confirmed his belief in lime as the best precipitant. Dr. Lewkowitsch somewhat severely criticised the process from a financial aspect, but contributed nothing of technical interest. Mr. Barnes said most people dreaded sludge formation, but this seemed to be a process for making as much as possible. He defended the Septic system. Mr. H. Grimshaw pointed out that Mr. Kidd had tried to get gas from sludge some years ago. He thought the Septic process might be called the cesspool process, as the dark tank seemed to resemble the latter, in which it was known by experience a considerable conversion into gaseous compounds took place. Mr. Bishop referred to the importance the Government Inspector had attached to the solids question at the recent Exeter inquiry, and instanced how the expert evidence differed on this point, one witness saying the amount was so small as to be safely negligible, while another stated that 45% of the solids emerged from the Septic tank. He did not wish to convey the idea that bacteria were likely to be of any help in solving the sewage problem, but as far as the teaching of the Exeter inquiry went they had yet to begin the good work. Dr. Grossmann briefly replied. He preferred an excessive amount of sludge on account of the increased yield from the by-products. There were about 60 members present, and the paper was illustrated with lantern slides and experiments.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Calcium Carbide. G. Bower. 1,983. January 25.
Manufacture of Calcium Carbide. G. Bower. 1,984. January 25.
Manufacture of Calcium Carbide. G. Bower 1,985 January 25.
Refuse Furnaces. T W. Baker 2,052. January 26.
Colouring Matters. A. Ashworth and J Bürger 2,076. January 26.
Extracting Gutta-percha. M. J. A. F. Maurice. 2,114 January 26.
Evaporative Surface Condensers. E Jones, and Kynoch, Ltd. 2,129. January 26.
Oil Filters. G. H. Richmond and J. Crowther. 2,160. January 27.
Salts of Di-hydroxy-tartaric Acid. H. J. H. Fenton. 2,224. January 27.
Seasoning Timber. W. Wright 2,255. January 28.
Secondary Batteries. J. V Sherrin. 2,389. January 29.
Manufacture of Glue. R. Brauer. 2,400. January 29
Mercury Albumenate Antiseptic Soap. R. Ehrhardt. 2,407. January 29.
Making Lead Oxide-hyposulphite more Efficient as a Priming Compound. E. Gurovits and M. Bals 2,412. January 29.
Electro-thermo Production of Calcium Carbide. H. Maxim and W. H. Graham. 2,415. January 29.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvement in the Method of and Apparatus for Purifying Water, Sewage, and other foul liquids. W. M. Ducat, 13, Devonshire-terrace, Hyde Park, London, W. Eng Pat. 654 January 9. 1897.

This patent has reference to the now much-talked-of bacteriological filter. It consists of a rectangular filter, the containing walls of which are honeycombed, or, better, perforated with short drain pipes set in the wall so as to slant slightly upwards, towards the exterior of the filter The latter is packed with the usual grades of filtering material, but each layer is separated by a bed of coarse material, in which unjointed pipes are laid These pipes come opposite the wall pipes, and thus ensure the passage of air to the centre of the filter. The perforated walls are enclosed by an exterior wall or jacket, and the intervening space is roofed in. The air fed to the filter is thus kept at an even temperature about 4 °F. If necessary, the air is passed through a heating chamber before reaching the air jacket which surrounds the filter. The surface of the filter is never submerged, and tilted troughs are provided to supply the sewage evenly on the top layer. The air is drawn into the filter by the vacuum formed by the escape of the filtered liquid, and also by the absorption of oxygen in the combustion of the organic matter effected by the bacteria There are five figures The filter is equally applicable to the purification of drinking water.

Improvements in Apparatus for Use in the Purification of Sewage and Polluted Water. F. P. Candy, Ivy Bank, Ashley-road, Bowdon. Eng. Pat. 1,722. January 22 1897

Certain improvements in cone-shaped filters are described, but the improvements are essentially mechanical. The sewage is used as the source of motive power for working revolving arms that help to clean the filter bed, etc Scrapers are provided for the cone filters. For particulars the specification should be consulted. There are three figures.

Improvements in Apparatus for Refining Fats and Oils. J Davidson, Australian Joint Stock Bank-chambers, George-street, and C. G. Hepburn corner of King street and Elizabeth-street, both of Sydney N.S.W. Eng. Pat. 14,238. June 11, 1897.

A modified hydro-extractor is used for filtering oils, tallow, etc. White sawdust is the filtering medium. A special method of lining the centrifugal basket with some textile material is described, for which several advantages are claimed. Enough sawdust to form a layer six to twelve inches thick is placed in the basket, which is then set in motion. The centrifugal force spreads the sawdust round the periphery of the basket. The oil is then fed in. A water-cooling jacket catches and cools the filtered tallow, which collects in the outer shell. There are two figures.

Improvements in Preservative Paints, Pigments, and the like. A. J. Boult, 111, Hatton-garden, London (communicated by F. Fritsche and Co., Hamburg-Uhlenhorst, Germany). Eng Pat. 2,667 February 1, 1897.

It is claimed that the objections to the use of most organic compounds in the preparation of paints for preventing animal and vegetable growths are overcome by the use of meta-nitro-para-cresol, which prevents all growths, etc., and is lasting. Also, it is not acid, and so can be freely used for coating the bottoms of iron vessels. It is ground with lead, zinc, and like oxides, in proportions varying from 2 to 5%, and the mixture applied through the usual lacquer or varnish mediums.

Improved Process and Means for the Sanitary Disposal of Human Excrement, and the Production therefrom of Gas and Bye-products serving for Manure and other purposes. J. G. Dornig, of Cossig, F. H. Rachlitz, of Trachau, and T. Zeunert, also of Trachau, all of Saxony Eng. Pat. 27,004. November 18, 1897.

The excrement is heated in closed retorts mounted like gas retorts. The gas given off is washed and stored. The wash-water becomes valuable as a liquid manure. The coke-like residue is ground, and can be used in the manufacture of gunpowder or for pyrotechnic purposes. The gas has the odour of arsenic, but is said to be harmless to health when burnt for illuminating purposes.

Manufacture of an Antiseptic Soap Powder. A. F. Dunn and A. Waithman, both of Regent-street, London. Eng. Pat 5,820. March 4, 1897.

Sixty per cent. of a stove-dried and pulverised soap base is mixed with 35% of wood sawdust and 5% of antiseptic, such as beta-naphthol, or any other suitable antiseptic body. Oak, teak, or ash veneer sawdust is used for fine powders, and common sawdust for coarser qualities.

Correspondence.

**** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

A CORRECTION.

(To the Editor of the Chemical Trade Journal.)

SIR,—I notice in the *Chemical Trade Journal* a statement which is hardly correct. You say that the English United Alkali Co. has bought ground between J. B Ford's No. 1 and No. 2 works. This is not the case; their ground is at Ecorse, between J. B. Ford's No. 2 works and Detroit.

It is Joe Morton's salt plant that is going down between Ford's two works, where they are now very busy in getting the railway tracks in, and it is not yet known here whether they are going to make anything else besides salt. They have absorbed two small works, a hoop-iron mill and a silver refining works

It may interest your readers to know that some of the United Alkali Company's chemists and other officers are out here, it is said for the purpose of erecting plant for the manufacture of chlorate of potash—I am, etc. WILLIAM HORDEN.

Detroit, U.S.A., January 23rd, 1898

PURE POTASSIUM CARBONATE

(To the Editor of the Chemical Trade Journal.)

SIR,—As I am in want of some (practically) pure potassium carbonate for some experiments I am conducting, I shall be glad if you will inform me through the medium of your paper, the names of one or two firms who manufacture such an article free from sulphate, and also the probable price per ton. I think that an article similar to that used by glass makers would meet my requirements, but I cannot find the article quoted in any lists. Thanking you in anticipation.—I am, yours truly, CARBONATE.

THE CHESHIRE SALT TRADE.—The official returns of the salt trade in January are very satisfactory, and after the recent depression the improvement will be greatly welcomed. The total shipments from all British ports amounted to 76,300 tons, an increase of 20,800 tons on the returns for January 1897. Liverpool alone shipped 41,000 tons, or 12,000 tons more than in the corresponding period. Runcorn shows a slight improvement, and Middlesbrough 5,000 tons and Fleetwood 2,000 tons increase.

NAPHTHA EXPLOSION.—An alarming explosion of naphtha occurred at the Horwich passenger station this week. A labourer, named Hanson, was lighting the fire in the hydraulic departure shed when a tank of naphtha exploded. Hanson was blown outside, and received injuries to his head. The shed took fire and the door was carried away and the windows shattered, the passenger line being covered with broken glass. Fortunately there were no passengers on the platform.

MERSEY AND IRWELL JOINT COMMITTEE.

A MEETING of this committee was held on Monday, at the offices, Mosley-street, Manchester. In the absence of the chairman of the committee (Sir John T. Hibbert), Mr. T. W. Killick presided.

CHIEF INSPECTOR'S REPORT.

The Chief Inspector (Mr. R. A. Tatton) presented a report as to the progress which was being made by various local authorities in works for the treatment of their sewage. Fair progress, he stated, had been made with the works at Chadderton, and the engineer had said he hoped to be in a position to start treating the sewage by the 1st of May. Concerning the Altrincham Urban District Council, the report was as follows:—"The district inspector has reported that when he was in the neighbourhood of the sewage works on the 17th January he found that the main sewer between the West Timperley overflow and the farm was being cleaned out, causing serious pollution to the stream. The sewer at the point where this was going on is raised above the level of the adjacent land, a pipe had been removed, and the contents of the sewer were being discharged over an acre or so of grass land and thence into the brook. I need hardly point out that, although no doubt the sewer requires cleaning out, this is a most irregular way of doing, and certainly should not be permitted." As to certain other districts, the report was in the following terms:—"Denton Urban District Council: The outfall works have been completed for some months, and a considerable length of the main intercepting sewer has been laid. Practically no sewage, however, has been connected up, although a large portion of it might be taken to the outfall works and treated. The order against the authority expired in April last, and I would suggest that they be required to connect up and treat as much sewage as possible without delay, and to make better progress with the sewer contracts which are not yet let.—Bury Rural District Council (Tottington Sewage Works): When the inspector visited these works on December 21st last, he found that the sewage had been diverted from the tanks and land, and was being discharged direct into the stream through a sluice which is intended to serve the purpose of a storm outlet. I have written to the clerk on the matter suggesting that the sluice should be done away with and a fixed storm overflow substituted for it. I would suggest that unless this is done further action should be taken in the matter.—Prestwich Urban District Council: There are several matters concerning the Prestwich Urban District Council which have on previous occasions been before the Committee and which require further attention. (1) The pollution to Singleton Brook from Sedgley Park. No treatment has been adopted for this portion of the district, and it is very necessary that something should be done. (2) The sewage of the district of Rainsough is at present discharged direct into a tributary of the River Irwell. The Kersal Vale Bleachworks are also situated on the same tributary, and have no treatment for their waste water, as it is understood that arrangements have been made with the Prestwich Urban District Council for treating this waste together with sewage. This matter also requires attention. With regard to the outfall works, two filters have been constructed, but they are only used occasionally.—The number of inspections made during the three months ending December 31st, 1897, is as follows:—To manufacturers, 1,810; to sewage works, 643."

RECOMMENDATIONS OF THE CONSULTING SUB-COMMITTEE.

The Consulting Sub-committee presented a report upon the facts placed before them by the Chief Inspector, and made various recommendations which were approved. With regard to Chadderton they recommended an extension of time for three months. As to Westhoughton they recommended that the consideration of the matter be adjourned for one month, and that the Clerk be instructed to write to the Council asking to be definitely informed when they hope to have the filters in operation. With regard to Hindley (Hindley Green) the Sub-committee recommended that the consideration of their position be adjourned to the next meeting, and that the Clerk be instructed to write to the Council asking for full particulars as to their proposals and difficulties. An adjournment of one month was also recommended in the case of Knutsford. In the matter of Hayfield the Sub-committee suggested an adjournment for a month, two months in the case of Bramhall, and one month as regarded Offerton works. Proceedings were threatened against the Bury Rural Council unless they substitute a fixed overflow for the sluice at Tottington works. Complaint was made that at Abram raw sewage was now passing into the streams. In order to ensure that the pollution should cease with the least possible delay the Sub-committee recommended that proceedings be taken against the Abram Urban District Council.

The Chairman said this was a case where the sewage was deliberately turned into the streams. It was not possible, therefore, he thought, for the Committee to ignore it.

The Sub-committee also reported that "the sewage from Sedgley Park, in the Prestwich district, still found its way into the Singleton *Brook*, causing serious pollution to the same, and, as there were other portions of the district which also gave rise to pollution, the Sub-committee recommended that proceedings be taken against the Prestwich Urban District Council for offences against Part II., section 3, of the Mersey and Irwell Joint Committee Act, 1892." With reference to Altrincham the report stated:—"A serious case of pollution by this authority is reported by the Chief Inspector as having occurred on the 17th January, on which date the Sub-inspector found that a pipe had been removed from the main sewer near Timperley works, at a point where the same is laid above the level of the ground, the contents of the sewer being thus allowed to escape after imperfect treatment on land to the stream. The pipe had been removed for the purpose of cleaning out the sewer." The Sub-committee recommended that the Clerk be instructed to take proceedings against the Altrincham Urban District Council for offences against the Mersey and Irwell Joint Committee Act, 1892. With reference to Ashton-under-Lyne, Stalybridge, Dukinfield, Hurst, Audenshaw, and Stalybridge and Dukinfield Joint Board the report stated: "Your Sub-committee have had under consideration a special report, which has been prepared by the Clerk, dealing with all the above authorities. Your Sub-committee, after careful inquiry into the whole matter, are of opinion that there has been serious and most unreasonable delay throughout, but it is difficult, without having all the parties before the Court, to say with whom the responsibility for the delay rests, or whether all are contributory thereto. They have, therefore, to recommend that proceedings be taken in the manner suggested by the Clerk in his report." The Clerk's report was a careful review of the position of the several authorities named with reference to the means adopted by them for the treatment of sewage. The concluding clause was in the following terms:—"Having regard to the different courts (four in number) in which the present proceedings have been taken, and with the view of dealing with all the authorities before one court, I beg to recommend that all proceedings or orders taken or made against the authorities under the Mersey and Irwell Joint Committee Act, 1892, be at once withdrawn, and that two months' notice be given under the Rivers Pollution Prevention Act, 1876, to each of the authorities, that upon the expiration thereof proceedings will be taken against them for offences against that Act. When the summonses are issued, an application must be made to the High Court to remove them from the County Courts, when a judge's order can subsequently be obtained, to consolidate them and try them as one cause at the Assizes or in London."

Continuing their report, the Consultative Sub-committee gave the results of Mr. Frank Scudder's analysis—on behalf of Sir Henry Roscoe—of the tank effluents at Manchester, Salford, and Hyde, and recommended that copies of the analysis be sent to the authorities named. In conclusion, it was stated that Sir Henry Roscoe had laid before the Sub-committee the analyses of 48 samples of sewage effluents from the works of local authorities. Of these he reported that 24 are good, 11 fair, 5 unsatisfactory, and 8 bad effluents. The Sub-committee recommended that the Clerk be instructed to write to the following authorities, whose effluents were classified as unsatisfactory, calling their attention to the matter:—Bucklow Rural District Council (Northenden and Hale), Whitefield Urban Council, Bury Rural Council, and Hyde Corporation. The bad samples were obtained from Manchester, Salford, Hyde, Abram, and Altrincham.

An application was received from Bolton for an extension of time, good progress having been made with the works. The Committee acceded to the application.

NITRATE STATISTICS.—The Permanent Nitrate Committee, in its public statistical circular for February, states that the total export of nitrate of soda to Europe during January was 2,300,000 quintals; loading for Europe, February 1, 780,000 quintals; imports, Europe, January, 102,540 tons; deliveries, Europe, January, 58,610 tons; visible supply, Europe, February 1, stocks and afloat, 696,280 tons.

DIRECT WEST INDIA CABLE.—The Direct West India Cable Co., Ltd., announce that their cables from Bermuda to Turks Island and Turks Island to Jamaica are open for traffic, and that therefore messages for these islands can now be accepted for transmission at the rate of 3s. a word. They take this opportunity of reminding the public that theirs is the only "direct" and all-British Cable route to Jamaica and other West India Islands (the other alternative routes being *via* the United States and Cuba or the unsettled Central American States), that it is new, and therefore of the latest construction, and that to ensure all messages going over their cables messages should be marked "*via* Bermuda" in the space provided for that purpose on all message forms. These words are sent free of charge by all Cable and Telegraph Companies. It will be their special intention to make the service popular by assuring speed, accuracy, secrecy, and general reliability, and by according every consideration to their customers, on whose support they rely in order to introduce and maintain the cheap rates to the West Indies and British Guiana, for the purpose of which the company was incorporated. The company's offices are at 33, Old Broad-street, London, E.C.

Legal Intelligence.

COURT OF SESSION.

FIRST DIVISION.

(Before the Lord President, Lords Adam, M'Laren, and Kinnear).

EDINBURGH AND DISTRICT WATER TRUSTEES *v.* CLIPPENS OIL COMPANY.

JUDGMENT has been given in the reclaiming note against the interlocutor of Lord Pearson refusing the application of the Edinburgh and District Water Trustees to have the Clippens Oil Co. interdicted from working the shale under the Moorfoot pipe belonging to the Trustees. Lord Pearson interdicted the company from working the limestone. The Higher Court have now refused to interdict both with regard to the shale and to the limestone, and found the trustees liable in expenses since the date of the interlocutor allowing proof.

The Lord President said—The leading fact about all the mineral workings now in dispute is that, while notice has been given at various times by the mineowners of their intention to work within the area protected by the Waterworks Clauses Act, no counter notice has ever been given by the Water Trustees. The claim of the Trustees is, therefore, that the workings of the company shall cease without compensation; and their first and leading contention is that the company have, by their actings, finally lost all right to work the minerals in any manner of way. Their second and less absolute position is that, assuming the company to have the rights of a mineowner who has given notice and has not received a counter notice from the Trustees, the company in their actual working have violated the statutory conditions under which their operations must be conducted. While this is a complete statement of the claim of the Trustees, the case branches out into a great many questions of fact and of law; but the view which I take of the first and most general of the complainers' contentions disposes of all the controversies discussed in the first fifteen pages of the Lord-Ordinary's complete and able opinion. That contention is that, if once a mineowner has, without notice, worked within the protected area, he can never thereafter legally work within it, with or without notice. I am entirely unable to accept this proposition. I do not dwell on the manifest difficulty which encounters this theory as to the limits within which the disability consequent on the transgression is to be held to attach, but I take note of it as a fair challenge of the theory. I shall consider the question, however, as if no practical doubt existed as to the limits within which it was proposed to interdict the mineowner from working. The hypothesis, then, is that, without having given to the undertakers notice under the 22nd section of the Water-Works Clauses Act, he has worked to a greater or less extent, within the protected area. No one doubts that this is illegal. It would follow that the undertakers have their legal remedies, and these are clear; they could interdict the working and thus have it stopped, and, if they could show any damage done, they could recover the amount of it. If the execution of works within the mine had been rendered necessary for the safety of the water-works, it should seem that this could be required. But then, why, plus all this, or, if so be, in place of it, should it follow that the transgressing mineowner shall forfeit all his minerals? I am unable to see any relation which this consequence has to the act which is supposed to bring it about. It is not the logical or legal result of the offence, nor is it an appropriate remedy of the wrong. Even as a penalty it has no proportion to the offence; and then penalties require enactment. Now, the sections contain no hint of any such forfeiture. Two reasons, however, have been advanced, both of which seem to me to be bad. First, it is said that unless the protected mineral is intact it cannot be offered to the undertakers by any subsequent notice. But the only basis of this theory must be that when the mineowner gives his notice and the undertakers meet it by requiring him to cease working, the undertakers buy the coal. But this is a mistake. The undertakers have to compensate for stopping the working; but they do not buy the coal, in the sense of buying the right to work it. Second, it is said that the only right in the protected coal which the mineowner retains under the sections is the right to work after notice, and that, in the case now under consideration, what is claimed by the mineowner is the right to work before notice. This is a transparent fallacy. All are agreed that working before notice is illegal. But the working, the legality of which is now in question, is working preceded by notice; and there is no physical or legal impossibility in some working being before a notice and illegal and other working being after a notice and legal. On these grounds, I hold that the averment of working prior to the notices is irrelevant to affect the validity of those notices or the right of the company to work after notice. I have therefore no occasion to consider the difficult questions of fact as to whether, at the several places in dispute, there had been working prior to the notices. Nor is it necessary to decide the question of law whether notice was required before working the coal lying, not under, but within forty yards of the water-pipe, where that is laid on ground which belongs "ad centrum" to the trustees. I assume now that the company have right to work their minerals within the protected area, in accordance with the limitations prescribed by the 23rd section—that is to say, so that no wilful damage be done to the said works, and so that the mine be not worked in an unusual manner. Those are the only limitations placed by the statute on the free exercise of the mineowner's rights of property. The undertakers not having exercised their right to stop the working, the mineowner is entitled to go on and work out his minerals, exactly as if the waterworks were not there, save only that he must not do wilful damage, and must not work the mine in an unusual manner. The mineowner is not due to the undertakers any support; and if, in the course of his workings, he brings down the surface, that is the undertakers' affair. The questions of wilful damage and of unusual manner must be considered on this footing. Now, it is unnecessary to say that in the issue of wilful damage (and also in that of unusual manner) the burden of proof is on the Trustees. The case of wilful damage presented by them took the form of a charge of conspiracy against two of the company's servants, both of whom were examined before the Lord-Ordinary, and believed by him. In the matter which the trustees supposed to constitute the most cogent evidence of malice they turn out simply to have been egregiously mistaken; and I am satisfied, with the Lord-Ordinary, that the action of the company's servants in the workings in question was in good faith, and is adequately accounted for by a legitimate attention to the business of the company. The question of unusual manner is attended with the difficulty which necessarily attends the application of the term unusual, where no standard of use is prescribed or referred to. The Trustees, indeed, attempted to supply this deficiency by asking us to read the words of the section as intending the same thing as the mines section (79) of the English Railways Clauses Act, which, instead of prohibiting working in an "unusual" manner, affirmatively requires that the working shall be done "in a manner proper and necessary for the beneficial working thereof, and according to the usual manner of working such mines in the district where the same shall be situate." This, however, would be a singularly illegitimate proceeding. If, as may very well be, it is legitimate to refer for illustration to the corresponding chapter of legislation about mines under railways, then we find that, while in the English Railways Clauses Act the mineowner is required to comply with what is usual in the district, the Scotch mineowner, under the Scotch Railways Clauses Act, is placed under no limitation whatever as to the manner of working, being expressly authorised (by section 72) to work the mines in such manner as he "shall think fit for the purpose of getting the minerals." As the Water-Works Clauses Act, 1847, is applicable to both countries, it may be supposed that the Legislature, taking notice of the conflicting methods of the two railway statutes, rejected both formulas, and laid down a rule which represents neither the strictness of the one nor the laxity of the other. It may be convenient first to consider the case of the shale, and it will be found to throw considerable light on the case of the Trustees in asserting the challenged workings of the limestone also to be unusual. Now, if anyone were asked to name the manner of working carried on in the shale and also in the limestone at Straiton, he would say—the manner known in Scotland as stoop and room, pillars being left in going and removed in returning. That is a highly usual manner of working mines; of course, much more usual in coal than in other minerals, because coal is more worked than other minerals. Shale workings are comparatively modern; but the evidence shows that this well known and usual manner of working is applied to shale in the excavation of shale for commercial purposes. Indeed the Trustees virtually admit this. They admit it to this extent that they say it is usual to remove some pillars, but not all, and in the end their argument comes to this, that many people leave in some pillars because those pillars will not yield the cost of removing. Now, when the question is one of percentages, and fine-drawn calculations whether a profit would be yielded, I must say that I think we are out of the region of manner of working altogether. On the merits of the question about the shale stoops I am with the Lord-Ordinary. I think that even on their own ground the Trustees have the worst of it; I think the removal of the pillars in question is adequately precedented, especially when regard is had to the comparatively narrow range of observation, and I think also that even on the question of cost the company's evidence is the better. The question of the limestone has this peculiarity, that it is only in exceptional instances that limestone is worked by subterranean mines. But then the condition of the argument is that it is lawful to get limestone by under-ground mining, and even by the stoop and room system; and the contention of the Trustees is that because hitherto there has been little or no removal of stoops, therefore the usual manner of working is to leave in the stoops. I think this far too narrow a view. Unless there be something in the nature and conditions of limestone which render impracticable in regard to it the methods of mining known and usual for other minerals, I do not see why the use in those other minerals should cease to be usual when applied to the output of limestone. Now the Trustees have not got a case of this kind. That you must timber your roof for the safety

of your workmen, and that at Straiton your seam of limestone is thick' and that the witnesses for the Trustees do not think that the removal of these limestone pillars would pay, do not constitute essential objections to the applicability of this system to the mining of limestone. I do not think that the clause which we are construing prohibits the application to one mineral of a manner of working which is usual in other minerals. I consider the evidence about hematite to be quite in point, as showing the applicability of the method to a kindred material, and the difference between the values of the two materials is in my judgment irrelevant. My opinion is, therefore, that in the matter of limestones as well as shale the company are entitled to our judgment. The result is that I am for adhering to the Lord-Ordinary's judgment in so far as it interdicts in terms of the first paragraph of the prayer of the Note (your Lordships will remember that in this the company acquiesced), and quoad ultra recalling the interlocutor and refusing the prayer of the Note.

The other Judges concurred.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(*Before Mr. Justice Stirling*).

WEBB *v.* LEVINSTEIN, LIMITED.

This was a motion in an action by T. G. Webb, of Queen's Chambers, Market-street, Manchester, against Levinstein, Limited, Manchester. It was stated that in November the defendant Company issued a letter to Messrs. Burtles, Tate and Co, Poland-street, Manchester, saying they were informed that Messrs Burtles, Tate and Co. were making glasses with a lip of special construction, and used in connection with an apparatus for the manufacture of sulphuric acid, for which they claimed patent rights, and stated that if so they would take legal proceedings if the making of these glasses was continued. Burtles, Tate and Co. were making the glasses for the plaintiff Webb, and when the letter was brought to his notice he raised this action. The defendants now admitted that the patent was not for the glass alone, but for the whole apparatus, and they now consented to treat this motion as trial of the action, and undertook not to renew the threat in respect of the mere manufacture of the glasses. Mr Clare, for the defendants, urged, however, that the action was premature, and was brought on the first threat, before any substantial grievance was done. (Vide *C T J*, 557, p 53).

His Lordship, in giving judgment, said he would treat the motion as disposing of the whole action. The action was to restrain threats by the defendants. The evidence was only of one threat, contained in a letter addressed by the defendants to Messrs. Burtles, Tate and Co., saying they were informed that they were making those glasses which the defendants had protected by patent. That information was correct, for they were making the glasses to supply Mr. Webb with. As soon as the letter was brought to the notice of Mr. Webb, he commenced the present action, seeking relief under section 32 of the Patents Act. After reviewing the facts, his Lordship said it was clear on the evidence that the threat was unfounded and could not be maintained. It seemed to him also that the action was within the section. What was the result? Mr. Clare had properly admitted that the letter could not be justified, and was willing to give an undertaking not to threaten Burtles, Tate and Co, nor, his Lordship presumed, any other manufacturer in respect of the glass vessels mentioned in the letter. But the further question had been raised whether the plaintiff was entitled to an injunction; and that depended on whether he was entitled to bring this action, having regard to the facts. Mr. Clare had contended that it was unreasonable to bring it without further correspondence between the parties. His Lordship confessed that he could not follow that. The argument would have been well-founded, probably, if it had turned out that there was any mistake made by Levinstein and Co.; but Burtles, Tate and Co. were doing the very thing with respect to which the threat was used. It seemed to his Lordship, therefore, that the action was not improperly brought, and that either there should be an injunction, or an undertaking not to threaten in respect of the glasses specified in the letter.

Judgment accordingly, with costs of the action to the plaintiff. It was stated that further litigation was pending between the plaintiff and defendant in respect of the complete apparatus.

A Fireproof Cement.—A new fire-resisting substance, which is intended to supersede cement in fireproof buildings, has been brought out by Mr. Rous, the inventor. While it resists fire better, the chief advantage claimed by the inventor is its extreme lightness, for it is only a third of the weight of cement, and it can be used for all the door fillings, floorings, and such-like things in which cement or sawdust are now generally employed. Mr. Rous is a tailor, and this is not his first invention of the kind. Some years ago he patented a process for rendering cloth uninflammable without altering its appearance, which has been completely successful, while another process of his renders cloth waterproof.

Reports of Companies.

FISH OIL AND GUANO SYNDICATE, LTD.

On Monday this week, an extraordinary general meeting of the Fish Oil and Guano Syndicate, Limited, was held at the Molesworth Hall, Dublin, for the purpose of declaring a dividend and of laying the general position and prospects of the company before the shareholders. Lord Lurgan presided.

The Chairman said that in the first place he desired to express the pleasure which it gave him to see such a large and representative gathering of the members of the Fish Oil and Guano Syndicate assembled.

ABOUT THE AMERICAN FISHERIES CO.

A rumour had been industriously circulated that the American Fisheries Company was not applied for; that it was a failure; and, in fact, that there was nothing in it. Well, he wanted to say that the American Fisheries Companies was over-applied for, and he thought that when they heard his remarks they would hold a different opinion on the American Fisheries Company, and of the people who had circulated the report regarding it. Another rumour that was started was that their volenite was worthless; that report was also without foundation.

The American Fisheries Company had been formed with a capital of 10,000,000dols., equivalent to £2,000,000, divided into 400,000 seven per cent. cumulative preference shares and 1 600,000 ordinary shares. The objects of the company were the purchase and amalgamation of a number of paying factories engaged on the Atlantic coasts in connection with the huge fish oil and guano business carried on there for years past, and the introduction into these businesses of the Stanley process.

Before the American Fisheries Company was formed, a model of their patent plant was prepared and sent out to America in charge of Mr. Stanley It was erected in one of the principal fish guano factories near New York. People interested in the American fishing business at once grasped the value of the invention, and it was admitted that it was far superior to anything they had over there. Before binding themselves to any way in the matter, they sent a representative to England who saw the full-sized plant at work near Yarmouth. The American expert, Captain Church, the head of the Manhaden Fish Association, was thoroughly satisfied with what he saw in England; he returned to America as quickly as possible, where he made his report, and called a meeting of the biggest people connected with the fishing industry. Upon hearing his report, they at once decided to amalgamate together, and the American Fisheries Company was formed, and it was arranged that everything should be in readiness for the fishing season commencing in May next. The properties acquired comprised 17 large factories, together with their fleets, plants, and everything connected with their business. Within the last few days they had been approached with reference to working their patents in Columbia and on the Pacific coast, and the matters were now under consideration. The amount they received for the American company was £600,000., payable partly in shares and partly in cash. The larger proportion was to be in shares. Five per cent. of the £600,000. had been allotted in payment of incidental expenses; that would leave £570,000. due to their company Out of that £40,000. odd had been realised as cash, and £530,000. had been issued in the ordinary shares to the Fish Oil Syndicate. In August last he told them that he was not in favour of an extravagant dividend; he was still of that opinion, but under all existing circumstances they had come to the conclusion that they would pay what many people would regard as an extravagant dividend—viz, 100 per cent.

VOLENITE TO THE FORE.

At their statutory meeting in August last he told them rather briefly something about the discovery of volenite by Mr. Lamplough, their advising chemist in London (*C.T.J.*, 537, p. 149). The directors of this company, in view of the importance attaching to the discovery of this volenite, came to the conclusion that it would be far better to have it tested as thoroughly as it could be, so that they might know exactly where they were. They were perfectly aware that in the hard volenite they had a very valuable asset. Mr. Nisbett, manager of the British Insulated Wire Company, Limited, had written:—"With reference to your letter of the 31st ult, and the sample of volenite marked 'specimen vegetable volenite, time three hours,' I write to say that in my opinion this is an extremely satisfactory material. The thickness of the sample in question was barely one-eighth of an inch, and I applied to it for some considerable time an alternating pressure of 30,000 volts, with a frequency of 100. There was no sign of breakdown in the material. I have further tested this sample for its mechanical properties, which I find to be extremely good. The material is readily cut by a saw, and can be drilled in the lathe, and, further, the surface will admit of a very high polish. Altogether, I have no hesitation in stating that in my opinion the material is at least as good, and probably better, for most

purposes than ebonite, and I should have no hesitation in recommending the use of material similar to this to anyone requiring a good insulator for general electrical work." The American deal had occupied a great amount of their time; in fact, three of their directors were, practically speaking, absent the whole time, and a great deal of work had as a consequence fallen on his shoulders But now that the board were together again they intended to take in hand and complete several other deals, and he would now briefly refer to some of the matters they had in hand. The sale of the South African rights was now under negotiation with a group of financial men of the highest position in London. They were also arranging for the formation of a company for the United Kingdom. There were two people with whom they were in treaty at the present moment on this matter; they were also in negotiation for the sale of their Russian rights, and proposals had been submitted to them for Newfoundland. In regard to Sweden, they had also had an offer from some firm, and their engineer (Mr Selsby Wilson) would, in conjunction with another engineer, examine certain plants there and in Norway which had been offered to the company. The French patents they had also under consideration, and they might further add that they were trying to make arrangements with regard to the Adriatic, which would take the form of an Austro-Hungarian company. One of their friends who had gone to Australia would look after their interest there They had even received proposals from India and the Island of Jamaica. There was one remaining question he had to deal with, and that was as to the splitting of their shares. In view of the rise that had taken place in these shares, it was obvious to anybody that at their present prices they were unweildy for marketable purposes, and that many people who would like to be interested in them were debarred from having anything to do with them by reason of the high prices at which the shares stood. He hoped they would agree with him that the resolution which he was about to move would be to the advantage of everybody interested. He begged to move:—"That in the opinion of this meeting a rearrangement of the capital of the syndicate is desirable, whereby the capital shall be increased to the nominal sum of £250,000, and sub-divided in such a manner that each shareholder in the syndicate shall receive five fully-paid £1. shares in the new capital in lieu of every one share now held by him, and that 50,000 shares be reserved for working capital, to be issued at the option of the directors, in the first instance, to the shareholders in the syndicate, rateably amongst them, either at a premium or otherwise as the directors shall think fit; and that the directors be requested to take the necessary legal steps to carry out the above intention."

Mr. Sims seconded the motion, which was carried unanimously.

100 PER CENT. DIVIDEND.

On the motion of the Chairman, seconded by Mr. Jameson, a dividend at the rate of 100 per cent. was declared on the ordinary shares. The Chairman said the dividends would be made payable on or after February 14th.

DIVIDENDS.

Muntz's Metal Company. The directors recommend the payment of a dividend out of the profits of the past year at the rate of 7½ per cent. per annum on the ordinary shares and 5 per cent. on the preference shares, carrying forward a balance of about £2,000.

Henry Bessemer and Co.—The annual meeting of this company was held at Sheffield this week; Mr. Harry Allen in the chair. A dividend of 10 per cent was declared. The chairman said the year 1897 opened very favourably, but the engineers' dispute seriously interrupted business. The prospects now were very good.

Patent Victoria Stone.—The directors recommend the payment of a dividend of 5 per cent., free of income-tax, for the half-year ended December 31, which, with the interim dividend paid in July last, will make 10 per cent. for the year, leaving a balance of £5,257 to be carried forward.

Personal.—At a meeting of the Council of Owens College, on Friday last week Mr. A. W. Gilbody, M.Sc, Ph.D., was appointed an Honorary Research Fellow in Chemistry.

Obituary.—We regret to announce the death of Mr. Hugh M. Matheson, of Messrs. Matheson and Co, of 3, Lombard-street, which took place early on Tuesday morning. The deceased gentleman had suffered for some considerable time from angina pectoris. Recently, however, the complaint had been less troublesome, and his sudden demise was not anticipated by his friends. He was identified with numerous companies, but was best known, perhaps, as chairman of the Rio Tinto. The most recent company with which Mr. Matheson identified himself was, we believe, the Mountain Copper Company, floated in December, 1896. Mr. Matheson was also a director of the Electrical Copper Co., Ltd., and a joint vice-president of the Zafra and Huelva Railway Company.

Parliamentary Jottings.

LEAD POISONING AND THE COMPENSATION ACT.

In the House of Commons on Thursday, Mr. Tennant asked the Attorney General whether his attention had been called to the case of three girls who, in the course of their work in the Potteries, had become blind through the action of lead poisoning, and whether the Workmen's (Compensation for Accidents) Act would provide a remedy in such cases.

The Attorney General replied that his attention had not been called to the case. It was not possible for him to answer an abstract question. Every case must depend on the special circumstances as to whether the injury was the result of an accident or not.

POTATO SPRAYING IN IRELAND.

Mr. M'Dermott asked the Chief Secretary for Ireland whether it was his intention, at the earliest moment, to take effective steps to ensure that this year's potato crop in Ireland should be safeguarded against blight by spraying, so as to prevent the disastrous results which had reduced large districts to the brink of starvation; and whether he had any information as to the effects of spraying last season, particularly where that course was adopted twice.

Mr G Balfour: The Government have under consideration the desirability of inserting in the Seed Supply Bill a clause empowering boards of guardians to obtain loans for the purchase of spraying machines, to be sold or hired to occupiers of holdings valued at under £15. As regards the second part of the question, my information is that the spraying of the potato crop, and especially where that operation is carried out twice over, is most beneficial in its results.

Trade Notes

More Welsbach Developments.—Not content with adapting an oil lamp to the Welsbach mantel system of lighting, it appears that the company have in hand a new gas burner which will, it is stated, be issued early in March. This burner dispenses with the glass chimney hitherto indispensable, is cheaper, and, it is said, consumes 40 per cent. less gas than the present lamp. The company will offer a range of lighting power with these burners all the way from 18 candles to 6,000 candles.

Cathode and X Rays.—A discourse at the Royal Institution was given last week by Mr. A. A. Campbell Swinton, who spoke of "Some New Studies in Cathode and Röntgen Radiations." Sir William Crookes was in the chair, and among the large audience were Mr. Justice Stirling, the Attorney-General, Sir F. Abel, Sir F Bramwell, Sir Edward Frankland, Professor Dewar, Mr W H. Preece, Mr J. W. Swan, Mr Victor Horsley, Dr. J. H. Gladstone, and Mr. Roger Wallace, Q C. After pointing out that the reason why so much attention was being devoted to this branch of physics was that in Crooke's tubes it was possible to deal, not with aggregates of matter, but with a few, perhaps single, molecules, the lecturer proceeded to discuss some of the properties of cathode rays Experiments illustrating the deflecting power exercised on them by a magnetic field were followed by the exhibition of some examples of their erosive action on the glass of the tube, which was seen to be roughened on the interior surface He next showed a cathode ray electric lamp, the rays from two concave electrodes being focussed on a piece of lime, which, under their influence, was raised to brilliant incandescence. A peculiar effect, which he was at a loss to explain, was that the lime glowed brightly and faintly in alternation; moreover, although an alternating current was used, the light appeared now on one side of the lime, now on another. Discussing the nature of the cathode rays and the distribution of the electric field within the tube, he pointed out that a pith ball, which might be taken to represent an atom, vibrated with equal velocity in each direction between two electrified plates, but that if one of the plates were connected to earth instead of to the electric machine, the vibrations were slower in one direction than in the other. Analogous conditions, he conceived, existed in the tube. The bulk of the atoms were positive and moved with comparatively small velocity, only those behind the cathode and those forming the stream coming off from the cathode being negative and moving at a great velocity. The existence of an anode stream could be proved experimentally by means of a tube containing a revolving vane (like a radiometer) whose position was variable at will. Put in the cathode stream it rotated very quickly in one direction, but if brought closer to the glass it came under the influence of the stream of positively-electrified atoms of the anode and rotated slowly in the other direction In the concluding part of his lecture Mr. Swinton dealt with the conditions affecting the production of X rays, and showed how their amount and penetrative character varied with the employment of different materials for the anti-cathode and with the relative positions of the cathode and anode in the tube.

Chemical Fire Engines and the L.C.C.—At the last meeting of the London County Council, in reply to Mr. A. Smith, Colonel Rotton stated that the committee had authorised expenditure in order that experiments might be conducted with chemical engines and also motor cars.

Powdered 99% Caustic.—Messrs. J. Crosfield & Sons, Ltd., of Warrington, are now putting on the market pure caustic soda in the form of a powder, which promises to largely supersede the old-fashioned lump or stick caustic. It is absolutely free from sulphides, iron, arsenic, and all reducing or oxidising substances, and contains only traces of carbonate of soda and salt. It is, as far as we know, the purest article of its kind at present made, and in the finely granulated form we think it should find favour in all laboratories and works where a pure caustic is a *sine qua non.*

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are very quiet and prices remain unchanged. Carbolic acids are dearer and firm, with 40% crystals at 7½d. and 60% crude 2s. 1d. Naphthas are depressed, there being a lot of coke oven crude on the market. Solvent is quoted 1s. 7d. and crude 8d. Anthracene is quietly held at 5d. for 30% A and 4¼d. for 30% B. Pitch is dull at 18s. 6d., f.o.b. East Coast.

Sulphate of ammonia has experienced a lull, the market having been quiet during the week. Prices have fallen away considerably in consequence. Several attempts have been made to force prices below £10., but the market closes fairly firm at £10. 2s. 6d. for London outside makes; Liverpool, £10. 2s. 6d.; Hull and Leith, £10. 1s. 3d. all prompt.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there are some indications of improvement in demand. For export prices are well maintained in all the leading products. Caustic soda is in good request, and prices are firm at last week's quotations, viz.:—F.o.b. Liverpool, 77%, £8. 10s.; 74%, £8. 2s 6d.; 70%, £7. 5s.; 60%, £6. 5s., nett, 10-ton lots. Ammonia alkali, soda crystals, and bicarbonate are held firm by the combined manufacturers. There is no change in quotations. Bleaching powder is in active request for prompt shipment at £6. to £6. 5s., hardwoods, f.o.b. Liverpool. In the home trade the competing manufacturers are offering inducements to buyers to make purchases for 1899 delivery at prices ranging from £4. 10s. to £5. per ton, f.o.r. makers' works; nearest spot quotation is £5. 2s. 6d. per ton, f.o.r. Chlorates are weak: Potash 3¼d., and soda 4d. per lb., with usual discounts. Sulphate of copper is rather firmer, but price remains at £16. 10s., f.o.b. Saltcake is moving at 18s. to 19s., f.o.r. Sulphur £4. 10s., f.o.r. For vitriol and muriatic acids there is a good general inquiry. Acetate of lime—brown is rather firmer at £5. 15s. to £6., c.i.f., with rising tendancy; grey £8. per ton. Acetate of soda £12. to £12. 10s. Other acetates quiet. Acetic acid unchanged. Nitrate of soda still offers at 7s. 3d. to 7s. 4½d. for prompt, and 7s. 9d. forward. White powdered arsenic £21. per ton, f.o.r. Garston. Prussiate of potash steady at 6½d. to 6¾d. Cyanide 1s. 1d. per lb. Potash, caustic and carbonate, is in fair demand, and prices unaltered. Oxalic acid has rather a lower tendency, and also in bichromates prices are slightly easier. Ammonia salts generally are firm. There are some indications of slightly improved demand for chemicals in the manufacturing districts.

REPORT ON MANURE MATERIAL.

Business continues to be quiet, though prices are well maintained. Quotations for 75/80% Florida phosphate rock for autumn shipment is 6d. per unit, c.f.i. to U. K. ports. Same price would be accepted for North Sea ports, but for the Baltic 6¼d. would be lowest. The shrinkage of stock at the mines during 1897 is occasioning uneasiness in the minds of buyers, and within the last week or two there has been a more decided disposition to buy at full prices. South Carolina River Rock continues to offer at 5½d. per unit, and 58/63% at 5⅛d., but no business has transpired at these prices. There would probably be sellers of Bombay bone meal at £4. 3s. 9d. per ton, ordinary quality, ex quay Liverpool, but for fine parcels £4. 5s. to £4. 7s. 6d. per ton is required. Nitrate of soda: So far there are no indications of the heavy spring demand setting in, and there having been considerable supplies fine quality has been freely sold at 7s. 6d. per cwt. There is a good demand for dried blood at full prices. The unit quotation given last week should have been 8s. 7½d.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 45s. 7d.; Middlesbro', 40s. 5d. cash; and hematite, 48s. 7d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £49. 3s. 9d. to £49. 8s. 9d. cash, and £49. 10s. to £49. 15s. three months. Tin firm: Straits closed at £63. 8s. 9d. to £63. 18s. 9d. cash, and £64. to £64. 10s. three months; Australian, £64; English ingots, £65. to £66 5s. Lead dull: Spanish, £12. 6s. 3d.; English, £12. 10s.; Silesian spelter, ordinary, £18. Nickel, 1s. 2½d. Antimony, £30. 5s. Quicksilver: First hands, £7.; second hands, £6. 19s. *Copper shares* steady: Cape, 4 13/16 to 4 15/16; Copiapo, 2⅜ to 2½; Libiola, 2⅝ to 2⅞; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, 28 to 28¼.

GLASGOW, Wednesday.—Market easier and a limited business. Scotch done at 45s. 8d. to 45s. 7½d. cash, and 45s. 10d., and 45s 9½d. month; buyers, 45s. 7d. cash; sellers, ½d. higher. Cleveland, buyers, 40s. 5d. cash; sellers, 40s. 6d. Cumberland hematite done at 48s. 7d. cash; buyers, 48s 7d. cash; sellers, ½d. dearer. Middlesbrough hematite, buyers, 49s. 6d. cash; sellers, 49s. 11d.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—There is a tendency to improvement in the position of palm oil, and a fair business has been doing. There is little to report about olive, in the absence of spot supplies, but the general tone is quiet. Linseed is now being firmly held at 16s. to 17s. per cwt. for Liverpool makes, in export casks. Cottonseed is steady at 14s. 9d. to 15s. 6d. per cwt. for Liverpool refined. Castor is being well held at 3 5/16d. per lb. both for good seconds Calcutta and first pressure French. Resin keeps very firm in price for all grades, and is selling well considering all things. Tallow is better and promises to move more freely. Spirits of turpentine have advanced, and are now steadily held at 25s. per cwt. on spot. Petroleum quiet: American 5d. to 6¼d., and Russian refined 4⅝d. per gallon.

CAKES.—American Western linseed on the spot have eased 2s. 6d. but with an improved demand the quotations are now £6. 12s. 6d. to £6. 17s. 6d., whilst Liverpool makes continue firm in tone, and move off into consumption to a very fair extent at £8 5s. to £8 10s. per ton, according to brand. American decorticated cottonseed meet with a steady demand at £5. 5s. to £5. 15s., according to quality, with a moderate trade doing in Liverpool makes at former rates—viz., £6. 5s. to £6. 10s. per ton. There is rather an improved demand experienced for Liverpool undecorticated makes, and the value is well maintained at £3. 17s. 6d. to £4. 10s, according to brand, and spot parcels of Egyptian are firmer, and with a fair inquiry experienced, sellers are now asking £4. per ton, an advance of 2s. 6d.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 90s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—Business here continues normal without any startling developments, which circumstance appears to be becoming the fast rule of this market. Prices have been ruling upon "rock bottom" rates a long time with little more than pendulum movements. The stocks of seed in Hull for month ending January 31st were:—Linseed, 24,518 quarters, against the previous month 29,531 quarters; rapeseed, 11,326 quarters against 7,901 quarters; cottonseed, 1,200 tons against 1,318 tons. The imports during the month have been:—Linseed 30,448 qrs. against December 100,184 qrs.; rapeseed, 4,266 qrs. against 13,091 qrs.; cottonseed, 34,040 tons against 27,592 tons. Linseed oil is firm, and quoted 14s. 10½d. spot naked; 15s. month and 15s. 1½d. Feb-April. Boiled and refined, from £1. to £1. 5s. per ton extra. Refined cotton oil is of slow sale, and quoted spot naked, 12s. 6d. sellers; forward Feb.-April, 12s 9d. value; May-August, 13s. 3d. Filtered refined £1. 5s. per ton extra; casks £1. and ordinary barrels £1. 10s. per ton extra. Olive oils are reported very scarce from Italy, and further advance in prices may be expected; the values rule here from £34. per tun according to origin. Olive oil soap on the spot is scarce and quoted from £16. per ton, c.i.f. Hull. Castor oil from 3½d. per lb. for first pressure, and forward down to 3d. per lb. in June. Second pressure a trifle less. Cod oils from £15. 10s. to £18. per ton in casks. Turpentine unchanged. Resin unchanged. Danish butter 108s. to 112s.; Turkish, 105s. to 110s.; Dutch, 102s. to 108s; Colonial, 84s. to 100s. per cwt.

ES.—The demand all round continues slow, which, however, o material alteration of values, which are :—Linseed cakes, very quiet but prices are unchanged ; 95% pure £8. to £8. 2s 6d.; s (linseed) £6. 17s. 6d. to £7.; Americans, £7. 5s. to 6d.; Russians, £7. 7s. 6d. to £7. 12s. 6d.; Polish, £7 12s. 6d.; cakes quiet but firm, best makes £4. to £4. 1s. 3d. spot; . 6d. to £3. 18s. 9d.; decorticated, £6.; decorticated meal, 6d.; rape cakes, Black Sea, £4. 5s. per ton.

TS.—The situation is unchanged ; makers continue fairly well d, but principally supplying home requirements ; export is not so active as all would desire. Prices are the same.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

of exhaustion in the boom of sulphate of ammonia, or at least erruption to it, became manifest here towards the end of the The topmost mark had been £10. 5s. prompt f.o.b. Leith, with r higher figure for one parcel with Glasgow delivery. ently, the tendency has been rather downwards, but very tly so. Probably there are no makers as yet willing to part for £10. 1s. 3d., but a dealer may be found perhaps ready to take With the exception of the rise of £2 per ton in both sorts of oniac, and a further slight decline in sulphate of copper, there lly any changes observable in general chemicals. Business is derate in amount, but perhaps up to the average of February recent years. Oils and paraffins are all unchanged, with fair es ex contracts going on.

prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett oda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne ; white alkali, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to nett, Glasgow ; caustic soda, white, 74° £8. 2s. 6d., 70/72° , 60/62° £6. 5s., and cream 60/62° £6. all nett, Liver- eaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 18s.; nglish, refined, £14. 10s., and boracic acid, £24. nett, Glasgow ; ate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. verpool ; bichromate of potash, 3¾d. nett, for Scotch and Eng- veries (for export, 3½d. nett, f.o.b. Glasgow) ; bichromate of . nett, for Scotch and English deliveries (for export, 2¾d. nett, lasgow) ; chlorate of potash, 3⅝d. less 5%, any port : nitrate of . 6d. to 7s. 9d. ; sulphate of ammonia, £10. to £10. 1s. 3d. f.o.b. Leith ; salammoniac, first and second white, £35. 3. nett, any port ; sulphate of copper, £16. 10s. less 5% t ; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; wax, 120° semi-refined, 1¾d. to 2d. per lb. ; paraffin spirit a), 6½d. to 7d. per gallon ; paraffin oil (burning), No. 1, 5¾d., stal, 6d., at Glasgow and other big centres, for Scotch buyers sales a shade lower) ; ditto (lubricating) 865° £4. 10s. to , 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. arrivals of sugar at Greenock were 660 tons coastwise from ol.

TYNE CHEMICAL REPORT.

TUESDAY.

icals are still very dull without change in prices. Soda crystals ed £2. 12s. 6d. per ton, gross weight, locally. Caustic soda, 7. 10s. per ton. 76/77%, £8. 15s. and £9. per ton Sulphur t £4. 15s. to £5. per ton.

hing powder, softs, £6. per ton, nett ; do. hards, £6. 5s. per t ; caustic soda, 76/77% £9. and 70% £7. 10s. per ton, nett ; d sulphur, 2 cwt. bags, £5. per ton, nett ; soda ash, 48%, per ton, nett ; do., 50%, £4. 12s. 6d. per ton, nett ; do., 52%, per ton, nett ; alkali, 36%, £3. 12s. 6d. per ton, nett ; white 8%, £5. per ton, nett ; do., 50%, £5. 5s. per ton, nett ; do., 5. 10s. per ton, nett ; hyposulphite of soda, 5-7 cwt. casks, per ton, nett ; do., 1 cwt. kegs, £7. per ton, nett ; silicate of Tw., £2. 12s. 6d. per ton, nett ; do., 100° Tw., £3. per ton, lo., 140° Tw., £3. 7s. 6d. per ton, nett ; soda crystals, £2. 12s. 6d. per ton, gross weight ; do., 2 cwt. bags, 6d. per ton, nett weight ; chlorate of potash, 4½d. per lb., ; pearl hardening, £3. per ton, nett ; pure white sulphate of , £3. 17s. 6d. per ton, nett ; blanc fixe, £7. 5s. per ton, nett ; of barium, refined crystals, £6. 15s. per ton, nett ; do. crude calcined, £6. per ton nett ; sulphide of barium crystals, per ton, nett ; carbonate of alumina, £30. per ton, nett ; te of soda, £30. per ton, nett.

T.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b.

LS.—Trade is fairly good, and there is a steady demand for alities of coal. Coke is firmer for local use. To-day's prices est Northumbrian steam, 8s. 3d. to 8s. 6d. per ton ; second , 7s. 3d. to 7s. 6d. per ton ; small steam, 3s. 3d. to 3s. 6d. ; gas coals, 7s. 9d. to 8s. 3d. per ton ; household coals, 10s. to oke, steady, 17s. 6d. to 21s. per ton.

New Companies.

Brandram Brothers & Co., Ltd.—CAPITAL £150,000. in £10. shares (7,500 £5. per cent. cum. pref.). This company has been formed to acquire and carry on the business of saltpetre and brimstone refiners and white lead manufacturers, carried on by S. Wright and A. Brandram, at Rotherhithe, Surrey, and to adopt an agreement with the said two vendors. The subscribers to the memorandum of association are :—S. Wright, St. Mildred's, Sydenham, S.E., gentleman ; A. Brandram, 14, Lee Terrace, Blackheath, S.E., gentleman ; H. R. Savory, Glen Eldon-road, Streatham, gentleman ; G. Milne, 59, Lordship-road, Stoke Newington, gentleman ; A. M. Barkworth, 27, Austin Friars, E.C., gentleman ; A. W. Akehurst, 257, Lewisham High-road, Brockley, gentleman ; H. W. Foskett, 9, Fenchurch-street, E.C., gentleman.

British China Clay Estates, Ltd.—CAPITAL 20,000. in £1. shares (6,000 £7.% cum. pref.). This company has been formed to acquire, explore, exercise, work, develop and turn to account any mines, mining rights, and metalliferous land in Cornwall. The subscribers to the memorandum of association are :—H. H. York, The Homestead, East Grinstead, auctioneer ; W. S. Dunscombe, 12, Montague-road, Croydon, writer ; R. W. Paterson, 11, Queen Victoria-street, accountant ; E. Reyns, 250, Richmond-road, Hackney, clerk ; W. Grey, 126, Chestnut Avenue, Walthamstow, typist ; W. H. Eve, 4, Dumont-road, Stoke Newington, clerk ; W. J. Shaw, 36, Thessilian-road, St. John's, S.E., manager.

David Thom, Domeier & Co., Ltd.—CAPITAL £180,000. divided into 18,000 6% cumulative preference shares and 18,000 ordinary shares of £5. each. This company has been formed to acquire, carry on, and extend the businesses of David Thom & Co., of Whit-lane Works, Pendleton, Manchester, soap, glycerine, oil, tallow, and chemical manufacturers and merchants, and of Domeier and Co., of 13, St. Mary-at-Hill, London, E.C., glycerine manufacturers. The price to be paid by the company has been fixed by the vendors at £147,459., in addition to which the company undertakes certain liabilities incurred on November 20, 1897, in respect of goods then in transit. The purchase price will be paid or satisfied as to £120,799. in cash, and the balance £26,660. in ordinary shares or cash, at the option of the company, leaving a cash balance for the company of £12,541. out of the present issue of 16,000 preference and 16,000 ordinary shares. The directors are :—Frank Alfred Roberts (Roberts, Dale & Co.), Cornbrook, Manchester, chairman ; T Falkner Phillips, 10, Queen's-road, Southport, Lancashire ; Alexander Lawson Ormrod, 10, Half Moon-street, Manchester ; Oscar Unglaub, Whit-lane Works, Pendleton, Manchester, managing director ; Charles Twietmeyer, 13, St. Mary-at-Hill, London, E.C., manager in London.

Glass Enamel Syndicate, Ld.—CAPITAL £10,000. in 1980 shares of £5., and 100 shares of £1. each. This company has acquired the business carried on by the Vitreous Enamelled Glass and Tile Company, of 19, Goulton-road, Lower Clapton, and to manufacture, sell, and deal in vitreous enamelled glass, ceramic ware, tiles, etc. The subscribers to the memorandum of association are :—W. Lutwyche, 30, Cazenove-road, N.E., clerk ; G. Wilshaw, 89, Leighton Villas, Waltham Cross, Herts, accountant ; E. Wanklyn, 4, Stafford-street, N.W., clerk ; D. W. Sharpus, 11, Ferndale-road, Clapham, gentleman ; E. Grainge, 17, Dashwood House, E.C., gentleman ; W. Lutwyche, 19, Goulton-road, Lower Clapton, glass enameller ; W. S. Lee, 212, Friern-road, E. Dulwich, secretary.

Septic Tank Syndicate, Ltd.—CAPITAL £60,000. in £1. shares. This company has been formed to adopt an agreement with D. Cameron, F. J. Commin and A. J. Martin, and to acquire, develop, improve and turn to account the "Septic Tank System" of dealing with sewage. The subscribers to the memorandum of association are :—Gen. Sir H. N. D. Prendergast, K.C.B., 2, Heron Court, Richmond ; Col. G. B. N. Martin, 5, Mt Radford Crescent, Exeter ; G. W. Clifford, 95, Sidwell-street, Exeter, manufacturer ; T. C. Milton, 265, High-street, Exeter, chemist ; A. H. Wheaton, Mary Arches-street, Exeter, manufacturer ; N. A. Mackie, The Quay, Exeter, clerk ; A. T. R. Martin, 16, Bedford Circus, Exeter, estate agent. Registered office : 7, Bedford Circus, Exeter.

Gazette Notices.

PARTNERSHIP DISSOLVED.

J. BALLARDIE and M. HOLDEN, manufacturing chemists and oil merchants, Liverpool, under the style of Ballardie, Holden, and Co.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending January 29th.

Acetic Acid—
Holland, 128 pks. A. & M. Zimmermann
" 60 J. Owen

Acids—
Holland, 294 pks. Little & Johnston
Germany, 18 Fleming's Oil Co., Ld.

Alkali—
Belgium, 260 c. J. Harrison
" 150 Luke & Co.

Anthracene—
Belgium, 173 cks. Burt, Boulton & Co.

Antimony Ore—
Australia, 5 t. J. R. Francis & Co

Arsenic—
Portugal 41 brls. Coverley & Westray

Asbestos—
Germany, £120 Butler's Wf. Ld.
" 300 Deering & Robottom
" 6 Craven & Co

Barium Chloride—
Germany, 6 cks. G. S. N. Co

Barytes—
Belgium, 1,015 bgs. O'Hara & Hoar
" 56 A. Zumbeck & Co
Holland, 113 W. Harrison & Co.

Bleaching Powder—
Germany, 117 cks. J. M. Steel & Co.
Holland, 90 "

Bone Meal—
Germany, 403 t. Anglo-Contl. Guano Wks.
E. Indies, 800 A. Tu[illegible]ter & Co

Bromide of Iron—
Germany, 15 cks. A. & M. Zimmermann

Bromine—
Germany, 20 cs. A. & M. Zimmermann

Camphor—
Germany, 134 cs. R. Warner & Co.

Caoutchouc—
Singapore, 296 c. Anderson, Wetter & Co
Penang, 173 Butler's Wf., Ld.
Rangoon, 3 Lewis & Peat
" 4 Prop. Hay's Wf.
Penang, 693 E. Boustead & Co.
Singapore, 26 Elkan & Co.

Castor Oil—
Belgium, 11 cks. A. Brown & Co.
France, 12 J. Greig
Belgium, 28 Burrell & Co.
Italy, 10 cs. Major & Field

Caustic Potash—
Belgium, 12 drs. A. J. Luke & Co
" 12 J. Harrison

Chemicals *(otherwise undescribed)*
Germany, £180 L. & I. D. Jt. Co.
" 160 Butler's Wf., Ld.
Holland, 10 J. Owen
France, 17 Mory & Co.
Belgium, 69 O. Scholzig
Germany, 30 H. Lambert
" 197 Phillipps & Graves
Holland, 30 G. Rahn & Co.
Belgium, 72 T. Palmer
U. States, 40 R. Thompson
Germany, 1,129 8 cks. A. & M. Zimmermann
" 20 R. W. Greeff & Co
Belgium, 172 T. H. Lee
Germany, 17 Petritite Co.

Copper Sulphate—
Germany, 17 cks. Charles & Fox

Copperas—
Germany, 3 cks. Burgoyne & Co.

Cream of Tartar—
Portugal, 5 cks. B. & F. Wf. Co
Spain, 25 W. C. Bacon & Co.
" 13 B. & F. Wf. Co.
France, 2 pks L. & N. W. Ry. Co.
" 10 cks. W. C. Bacon & Co.
" 5 B. & F. Wf. Co.

Cresoline—
U. States, £205 Lunham & Moore

Dyestuffs—

Aniline
Belgium, 21 pks. W. Gerson & Co.
Germany, 4 cks. Butler's Wf., Ld.

Annatto
Ceylon, 60 pks. Hoare, Wilson & Co.

Argols
Italy, 15 cks. Thames S. T. & L. Co., Ld.
" 479 bgs. B. Jacob & Sons

Cochineal
Canaries, 12 bgs. W. M. Smith & Sons
" 27 Swanston & Co.
" 20 Lewis & Peat
" 30 Sperling & Williams
" 3 Knowles & Foster

Cutch
U. States, 200 bxs. Ralli Brs.
Rangoon, 166 Leach & Co.
Ceylon, 400 Phillipps & Graves
Rangoon, 100 G. S. N. Co.
" 166 H. A. Litchfield & Co.

Extracts
Holland, 1 ck. Leder Son & Co
" 1 Hooton & Yates
U. States, 40 pks. Rosenberg, Loewe & Co.
Bastia, 10 Elkan & Co.
France, 1 ck. Burnett Brs. & Sons
Germany, 10 J. Burdon & Co
France, 23 drs. Carey & Sons
" 20 B. & F. Wf. Co.
Canada, 200 Boutcher, Mortimore & Co.

Gambier
S'gapore, 2,475 pks. Prop. Hay's Wf.
" 460 4,515 bls. Brinkmann & Co.
" 3,061 505 Adamson, Gilfillan & Co.
" 999 bgs. Beresford & Co.
" 1,196 bls. J. Swire & Sons
" 504 L. & I. D. Jt. Co.
" 242 pks. S. Figgis & Co.
" 1,005 P. & O. Co.
" 915 187 bgs. J. W. Cook & Co., Ld.
" 482 G. R. Haller & Co.

Indigo
E. Indies, 4 chts. A. Young & Co.
" 8 Binny & Co.
" 4 Arbuthnot, Latham & Co.
" 9 P. & O. Co.
Germany, 1 cs. Butler's Wf. Ld.
E. Indies, 4 chts. Dipnall & Co.
" 25 J. Owen
" 13 R. Von Glehn & Sons
" 20 Parry & Co.
" 103 P. Macfadyen & Co.
" 12 Elkan & Co.
" 22 Thomasset & Co.
" 46 J. Karpeles & Co.
" 14 Ralli Brs
" 12 Lewis & Peat
" 48 L. & I. D. Jt. Co.
" 42 117 pks. A. B. Curtis & Co.
" 42 J. Kenyon & Sons
" 53 Hall & Wilson
" 23 Parsons & Keith

Shumac
Italy, 250 bgs. W. Balchin Ld
" 400 Bevington & Sons

Tanners' Bark
Natal, 341 t. Flack, Chandler & Co.
" 24 A. & W. Nesbitt

Farina—
Germany, 50 bgs. R. Bennett & Co.
" 10 cs. Butler's Wf., Ld.
Holland, 50 bgs. J. Knill & Co.

Glucose—
U. States, 250 pks. 250 c. Williams, Torrey, & Co.
" 500 500 G. Clark & Son
" 300 300 R. G. Hall & Co.
France, 740 740 W. E. Cole
" 233 233 Trier, Meyer & Co.
U. States, 800 1,500 Robinson Son & Co.
Germany, 190 100 J. Barber & Co.
U. States, 10 12 L. & I. D. Jt. Co.
Holland, 40 40 J. Barber & Co
Germany, 20 163 M. D. Co.
" 150 1,400 Burnett S. S. Co., Ld.

Glue—
Germany, £146 L. & I. D. Jt. Co.
Canada, 63 "
Belgium, 1,624 J. Barber & Co.
Holland, 300 M. H. Voss
" 17 H. Johnson & Sons
France, 14 Mory & Co.
" 580 Burnett, Brs. & Co.
Holland, 300 T. H. Lee
Germany, 300 L. & N. W. Rly. Co.
Holland, 34 G. Rahn & Co
Germany, 72 M. D. Co
France, 400 Ducke & Sons
Italy, 88 Tlew & Stabel

Guano—
Germany, 650 t Anglo-Cont. Guano Wks
Peru, 1,684 A. Hunter & Co.

Infusorial Earth—
Germany, £225 A. Haake & Co.

Iron Oxide—
Spain, 800 bgs. W. Harrison & Co.

Iron Perchloride—
Holland, £48 J. Barber & Co

Kainit—
Germany, 150 t. Anglo-Contl. Guano Works

Litharge—
Holland, 16 cks. J. Owen
Germany, 1 Petri Brs
" 3 Butler's Wf., Ltd
" 15 pks. H. Lambert

Lithopone—
Holland, 20 cks. Wilkinson, Heywood, & Co
Germany, 4 M. D. Co.
Holland, 20 J. Owen

Manganese—
Germany, 5 t. Butler's Wf., Ltd

Methyl Alcohol—
Germany, 12 dms. Lister & Biggs
" 36 W. Izard
Belgium, 10 E. J. Catlin
" 1 ck J. Nortenberg & Co.

Mica—
Belgium, £46 John Cockerill Line
E. Indies, 672 W. M. Smith & Sons

Molasses—
U. States, 200 cks. C. S. Anderson
1,134 c. "

Nitre—
Chili, 30,825 bgs. W. Montgomery & Co.

Ochre—
France, 38 cks. W. Harrison & Co.
" 37 Taylor Brs
Spain, 150 sks. J. L. Lyon & Co.
France, 49 cks. "

Oxalic Acid—
Belgium, 8 cks. John Cockerill Line

Oxide of Magnesia—
Belgium, 51 bgs. J. Harrison
" 51 A. J. Luke & Co.

Phosphate Rock—
Belgium, 234 t. Anglo-Contl. Guano Works
U. States, 7,830 "
Algeria, 1,655 A. Ford & Co.
France, 267 A. Hunter & Co.
Aruba, 810 G. M. Bauer
Belgium, 50 J. Gibbs & Co.

Phosphorus—
Belgium, 10 cs. J. M. Steel & Co.

Plumbago—
U. States, 10 cs. Lunham & Moore
Ceylon, 85 cks. Doulton & Co.
" 434 J. Thredder, Son, & Co.
" 352 Morgan Crucible Co.
Germany, 12 bgs. Butler's Wf., Ltd.
Rangoon, 77 cks. Marshall & French

Potassium Bicarbonate—
Holland, 1 cks A. & M. Zimmermann

Potassium Carbonate—
Belgium, 100 c. F. Smith
France, 45 J. A. Reid
Germany, 546 Gas Light & Coke Co.
France, 520 Petri Brs.

Potassium Chloride—
Germany, 500 bgs. Anglo-Contl. Guano Works
" 100 F. W. Berk & Co.

Potassium Oxymuriate—
Sweden 100 kgs. G. Boor & Co.

Potassium Prussiate—
Holland, 3 cks. Blagden, Waugh, & Co.

Potassium Sulphate—
France, 50 bgs. Petri Brs.

Pumice Stone—
Italy, 1 t. W. J. Davies & Sons
" 4 G. S. N. Co.
" 3 B. Gallaway

Pyrites—
Spain, 400 t Anderson, Anderson, & Co.
" 3,037 C. Tennant, Sons, & Co.

Pyridine—
Holland, 5 dms. Burt, Boulton, & Co.

Quicksilver—
Spain, 5,000 flsks. N. M. Rothschild & Son

Rosin—
France, 12 brls. P. Waydien

Salicylic Acid—
Germany, 10 pks. Butler's Wf., Ltd.

Saltpetre—
Germany, 7 cks L. & I. D. Jt. Co.
" 20 J. Hall & Son Ltd.
Holland, 63 S. E. Railway Co.
E. Indies, 298 bgs. A. B. Curtis & Co.
" 2,318 Lucas & Spencer's Wf.
Germany, 20 cks. Petri Brs.

Soda—
Belgium, 8 c. Sawer, Sons, & Co.
" 1,080 F. W. Berk & Co.

Sodium Prussiate—
Belgium, 42 cks. Blagden, Waugh, & Co.

Sodium Sulphate—
Holland, 30 cks. H. Wallace & Co
" 30 J. Owen
" 03 pks. Deering & Robottom

Spent Oxide—
Channel Is., 137 t. Gas Purification Co.

Starch—
Holland, 70 cs. Phillipps & Graves
Belgium 880 E. & T. Pink
" 270 J. Harrison
" 300 Becker & Wagner
U. States, 2,999 bgs. Union L. Co.
France, 20 cs. W. E. Cole
Holland 1,825 Little & Johnston
Germany, 710 Horne & Co.
U. States, 100 cks. Skilbeck Brs.
Belgium, 200 cs. J. Barber & Co.
" 60 Leach & Co.
" 10 T. H. Lee
" 325 pks. "
Germany, 420 Seaward Brs.
Austria, 50 bgs. J. Barber & Co.
Germany, 6 cks. Butler's Wf., Ltd.

Stearine—
Belgium qty. H. Hebl
France, 80 pks. H. Hill & Sons
Holland, 16 cks. G. Rahn & Co.
Belgium, 127 bgs. H. Hill & Sons

Sulphur—
Italy, 60 t. G. Boor & Co.

Talc—
Spain, £200 Stobbs, Wilson, & Pollard

Tar—
Holland, 18 pks. M. Beuscher

Tar Salts—
Holland, 33 cks. J. Owen

Tartaric Acid—
Holland, 2 pks. F. C. Devon & Co.
" 6 cks. Kirkpatrick, Barr, & Co.
" 12 B. & F. Wf. Co.
" 74 pks. "

ars—
y, 25 cks. B. Jacob & Sons
amarine—
land, 18 cs. J. Barber & Co.
ish—
States, 20 pks. L. & I. D. Jt. Co.
gium, 1 T. H. Lee
States, 1 Pinchin, Johnson, & Co
ligris—
nce, 3 cks. H. Lorenz
te Salt—
many, 50 t. D. de Pass & Co.
e Lead—
nce, 17 cks. J. Watt & Son
land, 85 A. & M Zimmermann
gium, 48 J. L Lyon & Co.
many, 68 F. G. Clifford
" 27 H. B. Alder & Co.
" 5 H. Lambert
land, 87 Randall Brs.
ium, 19 Perkins & Homer
and, 24 J. Owen
" 13 N. J. Fenner & Co.
l Pulp—
ium, 1,576 pks. J. Harrison
way, 800 E. J. & W. Goldsmith
many, 252 "
way, 812 W. G. Taylor & Co
da, 46 Allan Brs. & Co
" 6,641 W. D Cork Jnr.
way, 300 "
len, 170 J. W. Cook & Co., Ld.
len, 560 Christophersen Andrews, & Co
way, 1,616 J. Sharp
len, 258 M. D. Co
and, 46 S. E. R. Co.
way, 40 M. D. Co.
Oxide—
and, 3 cks. Burrell & Co
" 75 J. Matton
many, 50 M. Ashby, Ltd
tates, 125 "
and, 25 Fellows, Morton, & Co.
many, 20 J. Barber & Co
and, 53 J. Owen
" 10 Prprs. Dowgate Dk.

IVERPOOL.

eek ending January 27th.

ony Ore—
pville, 250 t. H. A. Watson & Co.
ic Fume—
e Janeiro, 24 brls. W. B. Arkle
es—
rdam, 22 cks.
erp, 134
Ash—
ana, 637 bgs.
Meal—
ay, 2,360 bgs. W. & R. Graham & Co.
3,201
e of Lime—
agasta, 1 350 sks.
—
urg, 1 ck.
chouc—
raiso, 13 bls. Kleinwort, Sons & Co.
" 113 cs. Cunard S. S. Co., Ld.
nburg, 23 Leverkus Harmer
Oil—
illes, 1 cs. 162 brls.
ta, 314 Ralli Brs.
cals (*otherwise undescribed*)
" 106 bxs.
l—
n's, Nfd. 35 cks.
" 260 C. T. Bowring & Co.
s—
dam, 6 tubs.
seed Oil—
York, 95 brls.
ore, 100
of Tartar—
aux, 38 cks.
ffs—
atto
dam, 3 bskts.
h
o, 1,240 bxs.
ber
ore, 9,847 bls. 1,480 bgs.

Indigo
Calcutta, 137 chts.
Logwood
Fort Liberty, 450 t.
Orchella
Loanda, 19 bls.
Shumac
Palermo, 120 bgs 120 bls.
Valonia
Smyrna, 1,433 ktls. G. Essayan & Co.

Glucose—
New York, 522 brls.
Portland, Me, 50 T. M. Duche & Sons
Boston, 500
Glue—
Marseilles, 5 cs.
Rotterdam, 102 bgs.
Fiume, 60 bls.
Genoa, 8 cs. Animal Products Co.
Iodine—
Valparaiso, 32 brls. A. Gibbs & Son
" 83
Manganese Ores—
Rio de Janeiro, 10 cs Jacob, Walter & Co.
Coquimbo 1,730 t. Darwen & Mostyn Iron Co.
Mica—
New York, 10 brls.
Mineral White—
Trieste, 50 bgs.
Genoa, 20
Molasses—
Alexandria, 1,000 brls.
Ochre—
Marseilles, 35 brls. R. R Minton & Co.
" 15 M'Kellar, Carr & Co.
" 39
Paint—
Marseilles, 23 cs. Hawkes Somerville
" 80 brls.
Boston, 18 M. Hicol & Co.
Paraffin Scale—
New York, 515 brls.
Baltimore, 200
New York, 252 Anglo-Am. Oil Co. Ld.
Pitch—
Marseilles, 139 brls.
Plumbago—
Genoa, 120 pks. G. Huntriss & Co.
" 160 bgs. Leo Nagri & Co.
Potash—
Hamburg, 10 cks.
Pyrites—
Huelva, 6,128 t. Matheson & Co
Soap—
Marseilles, 1 cs. Cie Francaise
" 17
New York, 8 Armour & Co.
Bari, 119
Sodium Nitrate—
Junin, 4 550 sks.
Sodium Prussiate—
Antwerp, 18 cks.
Starch—
Antwerp, 206 cs. J. T Fletcher & Co.
" 120
Rotterdam, 80
Stearine—
Marseilles, 35 bgs.
Rotterdam, 7 bls.
Tallow—
Baltimore, 200 brls.
Boston, 75 200 tcs.
Campana, 120 cks.
Boston, 65 O Monsted
" 75 brls. Bigland, Sons & Co.
Tartar—
Naples, 1 ck.
Tartaric Acid—
Rotterdam, 3 cks.
Treacle—
New York, 250 brls.
Bordeaux, 3 cs.
Varnish—
New York, 3 brls. W. A Warren
Hamburg, 5 cs.
White Lead—
Rotterdam, 68 cks.
Antwerp, 24 J. T. Fletcher & Co.

Wood Pulp—
Sk'en, 3 543 bls. H. Tyrer & Co.
Christiania, 7,495 133 bgs. "
Halifax, 4,518 A. Rice & Co.
Rotterdam 309
Boston, 3 703 rolls Thin & Sinclair
Zinc Oxide—
Marseilles, 40 brls.
Rotterdam, 50 cks. J. Mathews & Co.
" 50
Antwerp, 60 brls.

MANCHESTER.

Week ending January 29th.

Alizarine—
Rotterdam, 48 cks.
Aniline Salts—
Rotterdam, 20 cks
Barytes—
Antwerp. 701 bgs
Chemicals (*otherwise undescribed*)
Rotterdam, 26 cks.
Hamburg, 4
Colours—
Rotterdam, 1.6 cks. 4 cs. 4 bxs.
Antwerp, 2 35 pks.
Glucose—
Norfolk, Va, 200 brls.
New York, 200
Glue—
Treport, { 50 bls. 14 cks G. Simpson & Co.
" 3 5 cs.
Rotterdam, { 7 5 330 bgs.
Antwerp, 8 bls.
Hamburg, 15 bskts.
New York, 10 brls.
Indigo—
Rotterdam, 2 brls.
Limestone—
Antwerp, 12 crts. J. T. Fletcher & Co.
Logwood—
Laguna De Termino, 295 t. D Midgeley & Sons
Methylene—
Antwerp, 7 dms.
Ochre—
Treport, 35 cks.
Pitch—
Antwerp, 59 cks.
Stockholm, 84 W. H. Stott & Co.
Potash—
Rotterdam, 13 cks.
Soap—
Treport, 5 cks. G. Simpson
1 cs. & Co.
Soda—
Treport, 40 bgs. G. Simpson & Co.
Sodium Acetate—
Treport, 30 cks. G. Simpson & Co.
Sodium Nitrate—
Rotterdam, 15 cks.
Sodium Silicate—
Rotterdam, 4 cks.
Starch—
Rotterdam, 220 cs.
Antwerp, 195
Hamburg, 216
New York, 2,095 bgs.
Stearine—
Rotterdam, 77 brls.
Antwerp, 34 bgs.
Strontia—
Rotterdam, 1 brl.
Tallow—
New York, 100 hds.
Tartaric Acid—
Rotterdam, 2 cks.
Treacle—
New York, 50 brls.
White Lead—
Antwerp, 8 cks.
Wood Pulp—
Gothenburg, 3,940 bls.
Drammen, 4,109 W. H Stott & Co
Stockholm, 1,800 "
Oveloinid, 1,200 "
New York, 252 rolls
Zinc Oxide—
Rotterdam, 96 brls.
New York, 200

HULL.

Week ending January 29th.

Acids—
Boston, 20 brls. Wilson, Sons. & Co., Ld.
Hamburg, 8 cs. Bailey & Leetham, Ld
Albumen—
Reval, 70 cs. Wilson, Sons, & Co., Ld
Barytes—
Bremen, 40 cks.
Antwerp, 17 Bailey & Leetham, Ld.
20 bgs.
Rotterdam, 77 cks. Hutchinson & Son
50 bgs.
Camphor—
Hamburg, 5 cks. Wilson, Sons, & Co., Ld.
Chemicals (*otherwise undescribed*)
Bremen, 7 cs. Veltmann & Co.
Cod Oil—
Aalesund, 10 brls. Wilson, Sons, & Co., Ld.
Bergen, 20 "
Colours—
Hamburg, 40 cks. Sissons Brs. & Co.
Antwerp, 14 Wilson, Sons, & Co., Ld.
Rotterdam, 11 2 bxs. W. & C. L.
20 brls. 93 pks. Ringrose
Hamburg, 6 cs. G. Malcolm & Son
Amsterdam, 2 cks. Hutchinson & Son
Ghent, 20 Wilson,
18 brls. Sons, & Co., Ld.
Copper Sulphate—
Hamburg, 50 kgs. Wilson, Sons, & Co., Ld.
Cottonseed Oil—
New York, 869 brls. Wilson, Sons, & Co., Ld.
Boston, 110 "
Cream of Tartar—
Rotterdam, 4 cks. Hutchinson & Son
Cryolite—
Copenhagen, 5 cks. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 24 brls. W. & C. L. Ringrose
Indigo
Hamburg, 3 cs. Wilson, Sons, & Co., Ld.
Madder
Rotterdam, 3 cks. W. & C. L. Ringrose
Valonia
Smyrna, 668 bgs.
50 t.
Dyestuffs (*otherwise undescribed*)
Hamburg, 103 bgs. Wilson, Sons, & Co., Ld.
Farina—
Ghent, 20 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 77
Stettin, 98 "
Glucose—
Boston, 300 brls.
Glue—
Christiansund, 3 brls. Wilson, Sons, & Co., Ld.
Dunkirk, 25 cks. "
Infusorial Earth—
Hamburg, 72 bgs.
Limestone—
Antwerp, 4 crts. Wilson, Sons, & Co., Ld.
Linseed Oil—
Hamburg, 5 brls. G. R. Sanderson & Co.
Manure—
Ghent, 150 t.
Naphthol—
Rotterdam, 9 cks. W. & C. L. Ringrose
Ozokerite—
Stettin, 266 bgs. Wilson, Sons, & Co., Ld.
Paint—
Boston, 1 brl. Wilson, Sons, & Co., Ld.

Hamburg, 6 dms. Rayment & Sharp

Phosphate—
Dunkirk, 1,108 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 2,040 "

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.

Potash—
Antwerp, 50 dms. Wilson, Sons, & Co., Ld.
Hamburg, 19 Bailey & Leetham, Ld.

Pyrites—
Huelva, 882 t.

Rosin—
Wilmington, N.C., 5,053 brls.
Rotterdam, 3 bgs. Hutchinson & Son

Saltpetre—
Hamburg, 35 pks. 12 bgs. Wilson, Sons, & Co., Ld.

Soap—
New York, 2 brls. Wilson, Sons, & Co., Ld.
Hamburg, 1 cs. "
Rotterdam, 2 W. & C. L. Ringrose

Soda—
Ghent, 100 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 36 cks. "

Starch—
Bremen, 3,281 cs. Veltmann & Co.
Amsterdam, 40 bxs. Hutchinson & Son
New York, 200 bgs.
Antwerp, 60 cs. Wilson, Sons, & Co., Ld.
Ghent, 92 "

Stearine—
Antwerp, 34 pks. Wilson, Sons, & Co., Ld.

Tallow—
Dunkirk, 32 cks. Wilson, Sons, & Co., Ld.

Tar—
Wilmington, 500 brls.

Tartar—
Bordeaux, 2 cks. Rawson & Robinson

Tartaric Acid—
Rotterdam, 8 cks. Hutchinson & Son

Treacle—
Boston, 175 brls. Wilson, Sons, & Co., Ld.

Ultramarine—
Rotterdam, 1 ck. Hutchinson & Son

White Lead—
Antwerp, 19 cks. Bailey & Leetham, Ld.
Amsterdam, 33 Hutchinson & Son
Rotterdam, 94 "

Wood Pulp—
New York, 542 bdls.
Drontheim, 1,820 bls.
Bergen, 145 pks. Wilson, Sons, & Co., Ld.
Hango, 68 bls. J. Good & Sons
Hamburg, 400 pks. Wilson, Sons, & Co., Ld.

Zinc Oxide—
Rotterdam, 28 cks. Hutchinson & Son

Zinc White—
Rotterdam, 85 cks. Hutchinson & Son

GLASGOW.

Week ending February 3rd.

Acetic Acid—
Rotterdam, 20 carboys J. Rankine & Son

Antimony Salts—
Rotterdam, 4 cks. J Rankine & Son

Antimony Sulphide—
Hamburg, 1 ck.

Arachide Oil—
Rotterdam, 2 cks J. Rankine & Son

Asbestos—
Genoa, 30 cs. 24 pks.

Barium Chloride—
Rotterdam, 4 cs. J. Rankine & Son

Barium Sulphate—
Antwerp, 73 cks. 350 bgs.

Barytes—
Hamburg, 300 bgs.
Rotterdam, 22 cks. J. Rankine & Son

Bauxite—
Marseilles, 156 t.

Bone Meal—
Bombay, 6,364 bgs.

Castor Oil—
Antwerp, 84 cks.
Leghorn, 15 cs.
Marseilles, 109 brls.

Chemicals (*otherwise undescribed*)
Rotterdam, 5 cks. 2 cs. J. Rankine & Son

Citric Acid—
Hamburg, 1 ck.

Colours—
Antwerp, 2 cks.
Hamburg, 15
Rotterdam, 32 pks. 10 brls. 3 cs. J. Rankine & Son

Cottonseed Oil—
Rotterdam, 20 brls. J. Rankine & Son

Cream of Tartar—
Bordeaux, 3 cks.

Dyestuffs—
Alizarine
Rotterdam 24 cks. 18 brls. J. Rankine & Son
Aniline
Amsterdam, 1 ck. J. Rankine & Son
Rotterdam, 6 6 cs. "
Aniline Colours
Hamburg, 10 cks. 1 cs.
Madder
Rotterdam, 5 cks. J. Rankine & Son
Marseilles, 7
Myrabolams
Bombay, 1,020 cs.

Glucose—
New York, 450 brls.

Glue—
Rotterdam, 62 bgs. J. Rankine & Son
Boston, 10 hf.-brls.
Genoa, 25 brls.
Hamburg, 100 bgs.
New York, 93

Lead Acetate—
Hamburg, 11 cks.

Oxalic Acid—
Rotterdam, 6 cks. J. Rankine & Son

Paint—
Marseilles, 24 cs.
New York, 166 kgs. 1 brl.
Amsterdam, 12 dms. J. Rankine & Son

Phosphate of Lime and Rock—
Antwerp, 2,040 bks.

Potash—
Hamburg, 87 cks.
Rotterdam, 60 J. Rankine & Son

Potassium Oxalate—
Rotterdam, 10 cks. J. Rankine & Son

Soap—
New York, 477 brls.
Rotterdam, 4 cs. J. Rankine & Son

Sodium Nitrate—
Iquique, 12,752 bgs. T. Aikman & Co.

Starch—
New York, 100 bgs.
Antwerp, 50 cs.
Amsterdam, 90 bxs.
Rotterdam, 35 cs. J. Rankine & Son

Stearine—
Amsterdam, 62 bgs. J. Rankine & Son

Talc—
Marseilles, 100 bgs.

Tallow—
New York, 25 trcs.

Treacle—
New York, 100 brls.

Ultramarine—
Rotterdam, 4 cks. J. Rankine & Son

Varnish—
Marseilles, 1 brl.
New York, 8

White Lead—
Rotterdam, 111 cks. J. Rankine & Son

Wood Pulp—
St. John's, N.B., 1,202 bls.

Zinc Oxide—
New York, 100 brls.
Antwerp, 63 pks.

Zinc White—
Rotterdam, 75 cks. 10 pks. J. Rankine & Son

TYNE.

Week ending January 29th.

Alum Earth—
Hamburg, 26 cks Tyne S. S. Co.

Antimony Ore—
Antwerp, 2,003 bgs. Tyne S. S. Co.

Castor Oil—
Antwerp, 30 brls. Tyne S. S. Co.

Colours—
Antwerp, 5 cks. Tyne S. S. Co.

Glucose—
New York, 100 brls. Furness, Withy, & Co.

Limestone—
Antwerp, 26 crts. Tyne S. S. Co.

Ochre—
Rouen, 171 cks. Joseph Brown & Co.

Paraffin Scale—
New York, 216 brls. C. Hassel

Potash—
Antwerp, 1 ck. Tyne S. S. Co.

Soap—
New York, 1 cs. Furness, Withy, & Co.

Starch—
Rotterdam, 80 cs. Tyne S. S. Co.
Antwerp, 22 "

Stearine—
Rotterdam, 7 bgs. Tyne S. S. Co.

White Lead—
Rotterdam, 3 cks. Tyne S. S. Co.

Wood Pulp—
Christiania, 250 bls.

Zinc Ashes—
Antwerp, 1 ck. Tyne S. S. Co.

Zinc Oxide—
Antwerp, 10 brls. Tyne S. S. Co.

GOOLE.

Week ending January 26th.

Alizarine—
Rotterdam, 67 brls. 5 cs.

Alkali—
Calais, 26 cks.

Antimony—
Boulogne, 4 cks.

Barytes—
Antwerp, 50 bgs.

Caoutchouc—
Boulogne, 4 cks.

Colours—
Hamburg, 12 cks. 4 cs.

Dyestuffs (*otherwise undescribed*)
Boulogne, 16 cks. 59 pks.
Rotterdam, 235 78 cs.

Farina—
Hamburg, 100 bgs.
Delfszyhl, 940

Glue—
Boulogne, 5 cks.

Potash—
Rotterdam, 16 cks.
Calais, 35 dms.
Dunkirk, 20

Pyrites—
Huelva, 800 t.

Saltpetre—
Rotterdam, 100 bgs.
Antwerp, 85

Starch—
Ghent, 205 cs.

Tartaric Acid—
Rotterdam, 1 ck.

Varnish—
Hamburg, 1 ck.

GRIMSBY.

Week ending January 29th.

Caoutchouc—
Hamburg, 2 cs.
Rotterdam, 2

Chemicals (*otherwise undescribed*)
Hamburg, 21 cks.

Colours—
Antwerp, 11 cks. 51 pks.
Hamburg, 17 18 cs. 57
Rotterdam, 1

Soap—
Hamburg, 3 cs.

Starch—
Antwerp, { 80 cks. 168 cs.
Rotterdam, 40

Varnish—
Hamburg, 1 ck.

Wood Pulp—
Gothenburg, 203 bls.

Zinc Ashes—
Antwerp, 16 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 2nd.

Acids—
Cadiz, 2 cks. £13
E. London, 85 cs. 94

Alkali—
Hamburg, 1 t. 18 c. £38

Ammonia—
Delagoa Bay, 6 cs. £18
B. Ayres, 2 10

Ammonia (Liquid)—
B. Ayres, 9 c. £28

Ammonium Carbonate—
Sydney, 20 cs. £28

Ammonium Chloride—
Melbourne, 1 t. 4 c. £22
Varna, 15 24
Calcutta, 4 11

Ammonium Sulphate—
Martinique, 81 t. £810
Mauritius, 50 2 c. 479
Dunkirk, 40 9 404
Ostend, 50 500
Berbice, 47 440
Bremen, 150 1,430
Havre, 100 900

Arsenic—
Normanton, 3 c. £12

Bleaching Powder—
New York, 1 t. £24

Bone Meal—
Martinique, 40 t. £160

Borax—
Rotterdam c. £15
Copenhagen, 5
Cologne, 1 t. 11 27
Hamburg, 16 13
Dusseldorf, 2 10 48
Antwerp, 5 6 72

Bromide of Cyanogen—
Fremantle, 1 t. 11 c. £320

Carbolic Acid—
E London, 1 cs. £5
Hiogo, 60 188

Carbonic Acid Gas—
Brisbane, 3 cylds. £10

Caustic Potash—
Antwerp, 10 t. £200
Caustic Soda—
Sydney, 4 t. 7 c. £39
Brisbane, 11 7 84
E. London, 1 5 28
Chemicals *(otherwise undescribed)*
Rotterdam, 5 cks. £42
Singapore, 6 dms. 12
Bombay, 2 cs. 57
Antwerp, 20 82
Brisbane, 1 10
Rosario, 4 pks. 29
Madras, 50 kgs. 6 79
E. London, 20 12
Cape Town, 1 12
Pt. Elizabeth, 4 12
Demerara, 125 33
Citric Acid—
Gibraltar, 1 c. £4
Adelaide, 5 28
B. Ayres, 5 29
Calcutta, 2 cs. 13
Wellington, 1 4
Coal Products—
Alizarine
Bombay, 50 cks. £105
Aniline
New York, 14 dms. £620
Calcutta, 1 cs. 7
Hobart, 1 16
Sydney, 1 20
Benzol
Treport, 22 cks. £72
Creosote
Bayonne, 82,856 galls. £974
Dieppe, 23,500 123
Hamburg, 140 dms. 35
New York, 500 cks. 353
Naphtha
New York, 5 dms. £80
Perth, 15 crts. 36
Melbourne, 50 56
Naphthaline
New York, 88 cks. £80
Hamburg, 6 54
Nitro Naphthaline
Cologne, 13 cks. £80
Pitch
New York, { 100 cks. 494 bgs. 16 brls. £190
Antwerp, 840 t. 825
Cadiz, 750 835
Dunkirk, 1,160 1,610
Salonica, 125 31
Chantenay, 1,100 1,520
St. Malo, 222 222
Prussian Blue
Dusseldorf, 4 cks. £44
Tar
Beira, 100 dms. £20
Delagoa Bay, 150 14
Sydney, 850 25 brls. 91
Pt. Elizabeth, 75 5
Genoa, 28 38
Copper Sulphate—
Singapore, 1 t. £15
Copperas—
Salonica, 27 t. 16 c. £51
Cream of Tartar—
Adelaide, 1 t. £77
Sydney, 3 250
Disinfectants—
Cape Town, 130 pks. £81
Fremantle, 66 53
Penang, 5 cs. 13
Wellington, 13 14
Antigua, 3 cks. 21
Bangkok, 5 dms. 19
Melbourne, 50 49
Auckland, 7 19
Sydney, 5 20 81
Durban, 107 pks. 44
Dried Blood—
Dunkirk, 87 t. 9 c. £435
Lead Acetate—
B. Ayres, 8 c. £11
Lime—
Demerara, 69 t. £153
Manure—
Demerara, 20 t. 4 c. £180
Martinique, 98 2 190
Dunkirk, 140 595
Chinde, 2 14
Wellington, 178 10 700
B. Ayres, 6 20
Jersey, 90 10 495
Nitric Acid—
Madras, 15 cs. 10 c. £25
Auckland, 3 10
Oxygen—
Amsterdam, 1 cs. £42

Phosphate—
Cape Town, 150 t. £270
Adelaide, 101 213
Phosphorus—
Calcutta, 1 cs. £13
Sydney, 5 c. 28
Melbourne, 4 48
Potash—
Wellington, 1 t. 8 c. £46
Hamburg, 4 10 90
Sydney, 1 3 18
Auckland, 1 6 24
Stettin, 15 12
Potash Salts—
Auckland, 25 t. 1 c. £2,041
Potassium Chloride—
Martinique, 40 t. £360
Potassium Cyanide—
Madras, 5 t. £560
Fremantle, 1 12 c. 187
Auckland, 25 cs. 280
Melbourne, 55 546
Delagoa Bay, 15 1,600
Potassium Nitrate—
Martinique, 33 t. £594
Potassium Prussiate—
Rotterdam, 17 cks. £243
Salicylic Acid—
New York, 6 cs. £58
Saltpetre—
Melbourne, 2 t. £41
Oporto, 3 8 c. 50
Sydney, 2 42
Sheep Dip—
San Francisco, 4 t. 3 c. £95
Punta Arenas, 9 9 400
Jamaica, 5 8
Adelaide, 50 dms. 9
Delagoa Bay, 2 10
B. Ayres, 3 13 125
Slag—
Demerara, 500 t. £1,500
Soda—
Melbourne, 3 c. £7
Colombo, 3 9
Genoa, 1 t. 2 8
Soda Ash—
Auckland, 20 kgs.
Sodium Bicarbonate—
Auckland, 38 kgs.
Sodium Tartrate—
Calcutta, 2 c. £7
Sulphuric Acid—
Penang 5 t. £22
B. Ayres, 43 cs. 38
Superphosphates—
Martinique, 163 t. £489
Tartaric Acid—
B. Ayres, 10 c. £60
Durban, 2 12
Yokohama, 10 56
Adelaide, 10 56

LIVERPOOL.

Week ending February 2nd.

Acetic Acid—
Piræus, 1 t. 2 c. £12
Copenhagen, 1 10 29
Lisbon, 2 4 1 q. 10
Alum—
Rio de Janeiro, 1 t. 2 c. 3 q. £6
Volo, 7 1 1 33
Lisbon, 6 1 1 27
Vostizza 1 1 5
Smyrna, 8 2 3 44
Callao, 2 13 2 7
Alexandretta, 5 25
Oporto, 5 21
Tripoli, 2 10
Aluminous Cake—
Calcutta, 25 t. 8 c. £83
Melbourne, 6 17 2 19
Ammonia—
Copenhagen, 1 t. £26
Ammonia (Liquid)—
B. Ayres, 4 c. £9
Ammonium Carbonate—
Rotterdam, 4 c. £5
Havana, 1 t. 30
Venice, 1 8 34
Naples, 1 32
Melbourne, 9 15
Marseilles, 10 15
Gothenburg, 10 15
Ammonium Chloride—
Trieste, 1 t. 10 c. £48
Rio de Janeiro, 1 3 q. 26

Smyrna, 1 31
Bahia, 3 6
Ammonium Sulphate—
Madeira, 1 t. £8
Cartagena, 15 2 c. 137
Norfolk, Va., 100 1,000
Gd. Canary, 20 5 193
Ghent. 50 450
Las Palmas, 25 270
Alicante, 10 98
Bilbao, 10 85
Sourabaya, 90 1 q. 720
Valencia, 121 16 1,113
Castellon, 200 6 966
Genoa, 51 508
Anhydrous Ammonia—
Philadelphia, 3 c. £25
Biarseniate of Soda—
Santos, 4 cks.
Bleaching Powder—
Bombay, 15 cs.
Boston, 557 cks.
Calcutta, 105 brls.
Chicago, 27 80 pks. 30
Georgetown, 25
Genoa, 240
Leghorn, 121
Lisbon, 20 10
Naples, 20
New York, 173
Philadelphia, 348
Piræus, 3
Rio de Janeiro, 27
Rouen, 99
San Sebastian, 60
Seville, 26
Troy, 25 bxs.
Venice, 25 cks.
Bone Black—
Palermo, 5 c. 1 q. £5
Boracic Acid—
Montreal, 1 t. 17 c. £54
Rotterdam, 1 1 3 q. 29
Copenhagen, 1 23
Borax—
Hobson's Bay, 2 t. 17 c. £42
Halifax, N.S., 1 1 14
Melbourne Whf., 11 5 1 q. 247
Copenhagen, 5 80
Fiume, 4 64
Callao, 1 10 22
Hamburg, 10 9 3 153
London, Ont., 10 8 2 157
Rotterdam, 21 9 323
Antwerp, 3 19 2 59
Genoa, 5 16 100
Rosario, 1 4 2 20
Alexandria, 10 brls. 22
Calcium Chlorate—
Boston, 50 t. 2 c. £98
Calcium Chloride—
Sydney, 10 t. 1 c. £21
Carbolic Acid—
Osaka, 1 t. 10 c. £80
Hiogo, 5 344
Yokohama, 5 350
Kobe, 2 10 172
Calcutta, 1 cs. 9
Vera Cruz, 13 36
Boston, 8 1 q. 5
New York, 3 16 2 52
Copenhagen, 19 3 66
Venice, 12 42
Caustic Potash—
Baltimore, 10 c. £14
Sydney, 2 t. 56
B. Ayres, 1 2 1 q. 28
Caustic Soda—
Adelaide, 50 dms.
Alexandria, 20
Alicante, 35 10 cks.
Amsterdam, 219
Antwerp, 12
Bahia, 40
Barcelona, 162 93 pks.
Barranquilla, 10
Batavia, 35
Bombay, 100
Boston, 100 brls.
Calcutta, 173
Callao, 200
Cartagena, N.G., 60
Chicago, 190
Cienfuegos, 15
Constantinople, 4
Fairwater, 35
Fiume, 45
Genoa, 360
Hamburg, 45
Havana, 100
Hiogo, 636
Kobe, 10
La Cause, 20

La Guayra, 8
Launceston, 36
Leghorn, 70
Lorenzo M'ques, 14
Madeira, 2
Madrid, 300
Malaga, 25 18
Malta, 60
Mauritius, 20
Melbourne, 211 30
Messina, 95
M. Video, 125
Naples, 70
New York, 100 50
Oporto, 45
Padang 150
Para, 20
Parnahyba 5
Payta, 10
Pernambuco, 29
Pt. Natal, 5
Punta Arenas, 9
Rio de Janeiro, 127
Rotterdam, 34
San Jose de Guatemala, 25
San Sebastian, 115
San Juan, 5
Seville, 145
Singapore, 10
Sydney, 26 35
Trieste, 45
Troy, 50
Trinidad, 200
Valencia, 30
Valparaiso, 195
Venice, 20
Vera Cruz, 5
Volo, 45
Wellington, 34
Chemicals *(otherwise undescribed)*
Alexandretta, 10 c. £19
Penang, 1 t. 10 45
Bremen, 1 29
Rio de Janeiro, 1 115
Samsoun, 7 cks. 26
Antwerp, 1 33
Hiogo, 1 63
Old Calabar, 3 cs. 5
Philadelphia, 19 17 2 q. 581
Genoa, 1 15
Rotterdam, 4 16 2 70
B. Ayres, 3 45
Frontera, 4 3
Sydney, 6 90
Melbourne, 2 30
Adelaide, 10 9
Hamburg, 2 58
China Clay—
Bombay, 407 cks. 20 bgs.
Calcutta, 680
Odessa, 100
Philadelphia, 300
Piræus, 220
Portland, M., 100
Rio de Janeiro, 137
St. John's, Nf'd. 108
Chrome Alum—
Lisbon, 5 c. £4
Coal Products—
Alizarine
Samsoun, 10 kgs.
Aniline Colours
Philadelphia, 3 kgs.
Aniline Oil
Genoa, 5 dms.
Aniline Salts
Barcelona, 20 cks.
Philadelphia, 60 cs.
Genoa, 20 brls.
Creosote
Lisbon, 47 t. 10 c. £120
Bordeaux, 59 7 2 q. 150
Creosote Oil
Lisbon, 250 brls.
Naphtha
Melbourne, 30 dms.
Pitch
Marseilles, 1,308 t.
Nantes, 381
New York, 49 cks.
Pisagua, 10
Tar
Addah, 4 brls.
Elmina, 20 pks.
Vancouver, 10
Copper Sulphate—
Paris, 35 t. 15 c. 1 q. £589
Naples, 34 16 559
Beyrout, 1 10 1 24
Cette, 519 6 3 8,370
Venice, 25 19 3 415
Leghorn, 26 14 424
Bordeaux, 19 14 318
Piræus, 22 10 2 306
Reval, 5 1 81

Algiers,	8	15		140
Vigo,	6			105
Seville,	15			216
Nauplia,	1			16
Palermo,	2			31
Trieste,	10	2		163
Genoa,	24	19		420
Bari,	5	8		83
Valencia,	49	18	3	400
Rotterdam,	1	8		23
Oporto,	67	15	2	1,051
M. Video,	4	12		71
Danzig	1	2	1	18
Newcastle,	1			17
Zante,	2		3	31
Lisbon,	7	9	2	115
Catania,	9	18	1	163
Calamata,	70	17	3	1,108

Copperas

Callao,	9 t.	6 c.	1 q.	£16
Volo,	7	15		15
Calcutta,	24	10		17

Disinfectants—

Kingston,	4 c.		£5

French Chalk—

Pernambuco,	15 bgs.

Guano—

Malaga,	40 t.	7 c.		£305

Iron Oxide—

New York,	9 c.	£6

Lactic Acid—

Yokohama,	5 c.	£14

Magnesia

Paris,	32 cs.
Philadelphia,	28 pks.
Rosario,	2

Magnesium Carbonate—

Sydney,	6 cs.

Manure—

Bordeaux,	14 t.	5 c.		£55
Gd. Canary,	15			70
Teneriffe,	2	10		12
Valencia,	29	14	3 q.	163
Marseilles,	9	10		35

Montreal Potash—

Palermo,	6 t.		2 q.	£117
Genoa,	1	14 c.	2	34

Muriatic Acid—

Pernambuco,	9 c.	£5

Paint—

Acajutla,	60 kgs.		
Accra,	5		
Alexandria,		3 tins	
Amapala,	25		
Antwerp	8		10 cks.
Bahia Blanca		41 pks.	
Boca,	313		
B. Ayres,		291	13 cs.
Calcutta		20	
Cape Town,		13	
Cartagena, N.G.	1 6		20
Constantinople,		474	
Corinto,	125		8
Havana,			2 cks.
Karachi,			15
Larnaca,			1
Lima,			25 cs.
Lisbon,	75		
Manila,			68 cks.
Rio Grand Do Sul,		2 crts.	
Santiago de Cuba,			2
San Juan,			1
Sherbro,	44		
Sierra Leone,	280		4
Smyrna,	650		
Syra			17
Tampico,			2
Trieste,		20 dms.	
Tripoli, Syria,	10		
Valparaiso,	30		
Vera Cruz,		80	3 brls.
Yloilo			2 cks.
Yokobama,	200		

Painters' Colours—

Adelaide		50 cs.	
Alexandria,		4	
Antwerp,	18 cks.		
Baltimore,	319	153 pks.	
Bereby,		16	
B Ayres,	1 brl.	2 cs.	25 kgs.
Danzig,		200 bgs.	
Manaos,			qty.
Para	10		
Parnahyba,	6		
Pelotas,			72
Philadelphia,	24 cks.		
Prevesa,			45
Porto Alegre,			40
Rangoon,	6		
Sydney,	5 brls.		
Vera Cruz,			200

Paraffin Wax—

Alexandria,		16 cs.
Genoa,	30 bgs.	20 cks.
Leghorn,	146	
Palermo,	5	
Patras,	20	
Piræus,		5
Rio de Janeiro,		6
Salonica,		13
Trieste,		10
Vera Cruz,	30	

Phosphorus

B. Ayres,		10 cs.	£110
M. Video,		6	66

Potash—

B. Ayres,	3 t.	15 c.	3 q.	£56
M. Video,	1	6	3	36

Potassium Bichromate—

Piræus,	6 t.	3 c.	£118
B Ayres	1	13	58
M. Video,		6	11
Samsoun,		18	6

Potassium Carbonate—

Baltimore,	12 t.	7 c.	£221
Yokohama,	1	2	3 q. 49

Potassium Chlorate—

Oporto,		12 c.	£10
Naples,	1 t.		31
Hiogo,	42	10	1,126
New York,	22	10	606
Gothenburg,	5		138
Philadelphia,	8		218
Boston,	12	10	572
Melbourne,	1		34

Potassium Prussiate—

B. Ayres,		2 c.	£6
Genoa	2 t.	19	134

Potassium Silicate—

Melbourne,		18 c.	3 q.	£15

Potassium Stannate—

Bombay,	1 t.	11 c.	3 q.	£86

Salt—

Abonnema,	30 t.	13 c.	
Akassa,	503	11	
Alexandria,	100		
Antwerp,	575		
Axim,	12	9	
Baltimore	250		
Bakana	50	14	
Benin,	6	5	
Boston,	100		
B. Ayres,	27	4	
Calcutta,	2,074		
Cape Coast,	62	5	
Cape Lahou,	21	13	
Chicago,	2,000		
Conakry,	130		
Copenhagen,	212		
Ghent,	103		
Lagos,	40		
Melbourne,	75		
Monrovia,	20		
Newport News,	60		
Newcastle	250		
N. Orleans,	458	5 c.	
Philadelphia,	1,012		
Port Antonio,		10 cs.	
Rio de Janeiro,		100	
Salt Pond,	50		
Sherbro,	100		
Sulymah,	18	8 c.	
Sydney,	310	10	
Valparaiso	3	11	
Warri,	7	6	
Wellington,	10		

Salt Cake—

Antwerp,	190 t.		£229
Baltimore,	156	5 c.	232

Saltpetre—

Larnaca,	1 t.			£21
Pernambuco,	17	2 c.	3 q.	398
Cartagena,	6	6	1	118

Sheep Dip—

Rangoon,		14 c.	3 q.	£16
Calcutta,	1 t.	12	3	38
M. Video,	2	13	2	105
Natal,	4	10		54
B. Ayres,	78	1		1,778

Soap—

Accra,	110 bxs.		
Akassa,			72 dms.
Alexandria,		40 cs.	
Algoa Bay,	1,425	50	
Antigua,	50		
Bombay,		13	
B. Ayres,			6 cks.
Cameroons,	60		
Cape Coast,	7		
Cape Town,	750		
Conakry,	220		
Curacao,	40		
Delagoa Bay,	30		
E. London	50		
Elmina,	100		
Frontera,		4	
Genoa,			100 pks.
Ghent,	10		
Gibraltar,	125	1	
Grenada, Nic.,	151		
Greytown	650		
Guayaquil,	600		
Half Jack,	150		
Havre,			2 cks
Karachi,	12		
Johannesburg,		50	
Kingston,	2,121		
Lagos	407		
Las Palmas,	717		
Malta,	109		
Manaos	425		
New York,		36	1
Old Calabar	2,100		
Opobo,	640		
Para,	200		250 blls.
Piræus,			15 pks.
Pt. Elizabeth,	100		
Pretoria,	100		
Quittah	15		
Rosario,	1		
St. Johns, N.B.,		300	
St. John's, N fld.		2	
St Lucia,	140		
Salt Pond,	25		
Santa Cruz De La Palma,	50		
Sierra Leone,		122	
Singapore,	175		
Smyrna,	33		
Surinam,	120		
Teneriffe,	500		
Tientsin,	50		
Toronto,		1	
Yloilo,		75	

Soda —

Rio de Janeiro,	10 brls.

Soda Alkali

Delagoa Bay		16 brls.
Genoa,	20 bgs.	35
Messina,		28
Sydney,		34
Volo,		10
Zante,		32

Soda Ash—

Aalborg,	200 kgs.		
Adelaide,		65 brls.	
Antwerp	500 bgs.		
Baltimore			29 cks.
Boston,		13 tcs.	31
B. Ayres,			200
Callao			79
Copenhagen,	50		13
Corfu,		25 brls.	
Fremantle,			34
Genoa,	129		
Gothenburg			30
Hamburg,	1,550		
Havana,			3
Hiogo,			615
Hong Kong,			54
Kingston,			8
Lagos	25 kgs.		
M. Video,		100	
Montreal,		64 tcs.	
Napanee,		10	
Naples,	150 bgs.		
New York,	1,110		
Philadelphia,		33	29
Porto Alegre,			20
Rio de Janeiro,		280 brls.	378
San Sebastian,			46
Singapore,			10
Smyrna,		100	
Valparaiso,			100
Venice,	300		45
Vera Cruz			29

Soda Crystals—

Adelaide,		34 brls.	
Boston,		196	
B. Ayres,	200 kgs		
Corfu,		40	
New York,	250		
Philadelphia,		15	
Rangoon,	8		
Sierra Leone,			14 cks.
Valparaiso,	75	300	

Sodium Bicarbonate—

Adelaide,	50 bgs.		
Amsterdam,	20 kgs.		
Bordeaux,	15		
Callao	20		
Christiania	20		
Corunna			10 cks
Delagoa Bay,		10 brls.	
Genoa,			40
Hiogo,	1,000		
Hong Kong,	20		
Kobe,	100		
Libau,	305		
Malta,	10		
M. Video,	30		
Natal,	10		
New York,			11
Palermo,	20		
Paris,	24		
Philadelphia,	25		
Piræus,	130		
Pt. Natal,	20 bgs.		
Rangoon,		1 cs.	
Reval,	260 kgs.		
Rotterdam,	40		
Rouen,	180		60
		20 brls.	
St. John's, N.B.,	200		
Seville,	85		1
Smyrna,	20		
Stamboul,	30		
Stettin,	20		
Sydney,	75		
Tampico,	200		
Valparaiso,	150		
Vera Cruz,	10		

Sodium Bichromate—

B. Ayres.	3 cks.

Sodium Carbonate—

Boston,	112 brls.
Panama	5 cks.

Sodium Chlorate

Antwerp,	89 kgs.
Reval,	100

Sodium Hyposulphite—

Alexandria,	10 kgs. 4 brls.
Callao,	50

Sodium Silicate

Kingston,	12 brls.
Mauritius,	5

Sodium Sulphate

Ponce,	10 cks.
Rotterdam,	2 6 bgs.
San Francisco,	100 brls.
Trinidad,	1 kg.

Starch—

Lisbon,	3 cks.
Pernambuco,	30 bgs.

Sulphur—

Cartagena,	1 t.	4 c.	3 q.
Philadelphia,	100	4	
B. Ayres,	4	19	
Halifax,	7	10	
Boston,	100	4	
Para,	1	10	

Superphosphates

Valencia	411 t.		£
Venice,	1,808	10 c.	3
San Sebastian,	30		
Alicante,	10		

Tar ar—

Piræus,	11 c.	£

Varnish—

Antwerp,	1 kg.
Barcelona,	6 cks.
Callao,	6 cs.
Genoa,	25 pks
Yokohama,	3

Waste Salt—

Calcutta,	15 c.

White Lead—

Trieste,	1 ck.

Zinc Chloride—

Bombay,	27 t.	3 c.	£
Calcutta,		6	

MANCHESTER

Week ending February 2nd.

Alizarine—

Alexandretta,	5 cks.

Alum—

Alexandria,	230 brls.
Djerba,	10

Ammonium Carbonate—

Antwerp,	5 kgs. 3 cks.
Hamburg,	10

Ammonium Chloride—

Beyrout,	6 brls.

Ammonium Sulphate—

Belgium,	453 bgs.

Aniline Oil—

Germany,	2 cms.

Aniline Salts

Germany,	5 pns.

Anthracene—

Germany,	25 cks.

Benzol—

Germany,	1 dm.

Carbolic Acid—

Beyrout,	1 brl.
Paris,	179 blls.

Caustic Soda –
Susa, 25 dms.
Copper Sulphate –
Alexandretta, 2 cks
Copperas –
Alexandretta, 30 brls.
Beyrout, 73
Creosote Oil –
Alexandria, 250 brls.
Glue –
Germany, 1 ck.
Holland, 29
Naphthionate –
Switzerland, 29 cks.
Paint –
Jaffa, 5 cks. 1 brl.
Painters' Colours –
Jaffa, 1 ck. 8 brls.
Pitch –
Cette, 845 t.
St Nazaire, 799 9 c.
Potash –
Alexandria, 2 cks.
Rosin –
Beyrout, 8 brls.
Salt –
Gothenburg, 200 t.
Soda Alkali –
Alexandretta, 6 cks.
Beyrout, 1 brl.
Sodium Bicarbonate –
Paris, 34 kgs.
Sodium Naphthionate –
Holland, 15 cks
Spent Oxide –
Antwerp, 150 t.
Tallow –
Holland, 22 cks.
Tar Oil –
Germany, 2 brls.
Toluol –
Germany, 79 dms.
Zinc Chloride –
Holland, 1 ck.

GLASGOW.

Week ending February 3rd.

Ammonium Sulphate –
France, 50 t. 10¼ c.
Christiania, 6
Hamburg, 101 6
Demerara, 76 13½
Trinidad, 58 19¾
Bleaching Powder –
Calcutta, 35 t. 1¼ c
Bombay, 5 2
Boston, 10 2¼
Borax –
Fiume, £21
Hamburg, 25
Natal, £13 17s.
Carbolic Acid –
Rotterdam £90
Coal Products –
Alizarine Colours
Lisbon, £27
Creosote Oil
U.S.A., £85
Naphtha
France, £86
Pitch
Trieste, £618
Italy, 82
La Rochelle, 320 t. 946
Spain,
Hamburg, 10
Venice, £29 11s.
Tar
Rangoon, £31
U.S.A., 108
Coal Products (*otherwise undes.*) –
Amsterdam, £18
Copperas –
Bombay, £89
Dyestuffs (*otherwise undescribed*)
Lisbon, £81
Extracts –
Covilha, £68
Lisbon, 52
Gelatine –
U.S.A., £263
Litharge –
Johannesburg, £21
Manganese –
Fiume, £140

Manure –
Demerara, 10 t 3½ c.
Jersey, 348 9¼
Muriatic Acid –
Bombay, £50
Nitric Acid –
Bombay, £220
Paint –
B. Ayres, £318
Trieste, 155
Painters' Colours –
Cape Town, qty.
E. London, "
Calcutta, "
Cape Town, £130
Rangoon, "
Amsterdam, 3
Rotterdam, 12
Algoa Bay, "
Paraffin Wax –
Fiume, £129
France, 120
Italy, 280
Trieste, 360
Turkey, 125
Venice, 45
Skien 30
Lisbon, 30
Phosphates –
Trinidad 3 t. ¼ c.
Potassium Bichromate –
Bombay, £50
France, 187
Italy, 377
U.S.A., 1,504
Potassium Cyanide –
Fremantle, £533
Rosin –
Cape Colony, £42
Sheep Dip –
B. Ayres, £76
Soap –
E. London 6 t. 4 c.
Algoa Bay, 2 4½
Sodium Bichromate –
Halifax, 19 c.
Italy, 1 t. 7½
Sodium Sulphate –
Lisbon, £20
Starch –
Rio de Janeiro, £45
Sulphuric Acid –
Rangoon, £170
Bombay, 1,200
Tallow –
Italy, 28 t. 18¼ c.
Turkey, 12 7½
Rotterdam, 14 15
Treacle –
Christiania, 25 t. 8 c.
E. London, 3
Amsterdam, 1
Algoa Bay, 1 5
Turpentine –
Calcutta, £26
White Lead –
Delagoa Bay, £78
Lisbon, 35
Zinc Sulphate –
Canada, £60

HULL.

Week ending January 29th.

Alkali –
Hamburg, 2 cks.
New York, 35 dms
Ammonium Sulphate –
Antwerp, 703 bgs.
Bombay, 50
Bremen, 503
Dunkirk, 100
Hamburg, 254
Bleaching Powder –
Venice, 20 cks.
Borax –
Oxelosund 2 cs.
Carbolic Acid –
Amsterdam, 34 cks.
Odessa 50
Chemicals (*otherwise undescribed*)
Antwerp, 8 cks.
Amsterdam, 73
Bari, 15 cs.
Bordeaux, 10
Bombay, 990 brls.
Constantinople, 15

Christiania, 2,621 slbs.
Copenhagen, 10
Danzig 13
Drontheim, 300 pks.
Gothenburg, 1 60 cs
Hamburg, 120 25 4
Kurrachee, 573 brls.
New York, 5
Rouen, 20 cs.
Rotterdam, 12 8
Stettin, 9
Venice, 20
Coal Products (*otherwise undes.*) –
Libau, 156 bgs 25 brls.
Cottonseed Oil –
Antwerp, 1,275 c
Amsterdam, 875
Bremen, 100
Bergen, 4
Dunkirk, 200
Hamburg, 581
Rouen, 406
Rotterdam 1,194
Trieste, 802
Dyestuffs (*otherwise undescribed*)
Amsterdam, 1 ck.
Danzig, 6 cs.
Glue –
New York, 68 cks
Linseed Oil –
Bombay, 833 c.
Bergen, 104
Christiania, 250
Drontheim, 18
Hamburg 176
Kurrachee, 244
New York, 196
Magnesia –
Odessa, 35 cs.
Manure –
Dunkirk, 100 t.
Mineral White –
Rotterdam, 100 bgs.
Naphtha –
Amsterdam, 6 cks.
Paint –
Bombay, 225 kgs.
Painters' Colours –
Antwerp, 45 cks. 2 cs. 31 dms.
Amsterdam, 10 5
Bordeaux, 2
Bombay, 117 168 490 kgs.
Christiania, 16
Copenhagen 12 cks.
Danzig, 1 pk.
Dunkirk, 3 16 dms.
Gothenburg, 6 241
Hamburg, 19
Kurrachee, 10 3
New York, 160 40 pks.
Rouen, 20
Rotterdam, 7 4
Stettin, 27 3
Paraffin Wax –
Odessa 100 bgs
Pitch –
Antwerp, 160 t.
Salt –
Bergen, 100 bgs.
Tallow –
Rotterdam, 24 cks.
Tar –
Christiania, 3 cks.
Varnish –
Antwerp, 4 cks. 3 cs. 8 dms.
Copenhagen, 1
Gothenburg, 1
Harlingen, 4
Hamburg, 3
Rotterdam, 6

TYNE.

Week ending January 29th.

Alkali –
Antwerp, 15 t. 3 c.
Rotterdam, 10 14
Savona, 5 6
Amsterdam, 13 4
Christiania, 6
Ammonia –
Barcelona, 5 t. 6 c.
Arsenic –
Amsterdam, 15 c.
Barium Binoxide –
Venice, 10 t. 16 c.
Barytes –
Antwerp, 19 c.

Bleaching Powder –
Copenhagen, 13 t. 5 c.
Antwerp, 5
Rotterdam, 13 18
Venice, 12 7
Odense, 5 3
Genoa, 5 18
Amsterdam, 30 9 20 cks.
Christiania, 55 t. 5
Carbolic Acid –
Rotterdam, 5 t. 14 c.
Caustic Soda –
Copenhagen, 9 t. 5 c.
Gothenburg, 85 8
Genoa, 18 17
Christiania, 7 15
Chemicals (*otherwise undescribed*)
Rotterdam, 16 lbs.
Copperas –
Oporto, 1 t. 17 c.
Litharge –
Rotterdam, 1 t. 14 c.
Gothenburg, 1 5
Amsterdam, 2 2
Magnesia –
Copenhagen, 4 c.
Hamburg, 4
Antwerp, 7
Smyrna, 3
Barcelona, 1 t. 4
Ochre –
Christiania, 1 t. 12 c.
Paint –
Antwerp, 1 t.
Smyrna, 4
Soda –
Antwerp, 5 t. 7 c.
Rotterdam, 10
Smyrna, 33 7
Arendal, 1
Genoa, 31 3
Amsterdam, 10
Christiania, 24 11
Soda Ash –
Bergen, 11 t.
Lisbon, 1 7 c.
Sodium Sulphate –
Aalborg, 2 t. 10 c.
Christiania, 100
Gothenburg, 5 6
Sulphur –
Christiania, 100 t.
Tallow –
Genoa, 5 t. 3 c.

GOOLE.

Week ending January 26th.

Benzol –
Hamburg, 75 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 20 cks.
Rotterdam, 200
Coal Products (*otherwise undes.*) –
Amsterdam, 1 ck.
Antwerp, 1 dm.
Boulogne, 53
Rotterdam, 23 1 cs. 18 tins
Colours –
Antwerp, 4 cks.
Boulogne, 4
Dyestuffs (*otherwise undescribed*)
Antwerp, 8 pks.
Manure –
Bruges, 89 bgs.
Dunkirk, 810
Ghent, 538
Pitch –
Antwerp, 794 t.

GRIMSBY.

Week ending January 29th

Alkali –
Hamburg, 16 cs.
Chemicals (*otherwise undescribed*)
Dieppe, 5 cks.
Hamburg, 4 kgs
Coal Products (*otherwise undes.*) –
Dieppe, 30 cks. 8 pks.
Hamburg, 3
Colours –
Antwerp, 1 cs. 6 pks.
Hamburg, 3 cks. 1 brl.
Rotterdam, 1 4
Pitch –
Antwerp, 82 t.

PRICES CURRENT.

WEDNESDAY, FEBRUARY 9TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 %, and 40 %	per cwt.	5/9	&	8/9
" Glacial	"		39/-	
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¾
Oxalic	nett "	0	0	3½
Phosphoric, 1750°	"	0	0	11½
Picric	"	0	1	0
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	1½
Arsenic, white powdered	nett per ton	21	0	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	0	0
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	18	0	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	25/-	&	33/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	10	2	6
" " (grey) Hull	"	10	1	3
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt "	"	0	0	4¾
Antimony	per ton	30	5	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	15	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6 to 65/-		
Bleaching Powder, 35 %	nett "	5	10	0
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	"	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	3½
" 50/90 "	"	0	1	6
Carbolic Acid (crude 60°)	per gallon	0	2	1
" (crystallised 40°)	per lb.	0	0	7½
" (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	3
Crude Naphtha 30 % @ 120° C.	"	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	"	0	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	7	6
" Sulphate	"	16	10	0
" Oxide (copper scales)	"	44	10	0
Glycerine (crude)	"	22	10	0
" (distilled S.G. 1250°)	"	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	13	10	0
" Litharge Flake (ex ship)	"	16	0	0
" Acetate (white ")	"	23	0	0
" " brown ")	"	17	0	0
" Carbonate (white lead) pure	"	17	0	0
" Nitrate	"	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
" " (grey) (ex ship	"	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	"	16	0	0
" Borate	per cwt.	2	10	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	9
" " Miscible, 60° O.P	"	0	3	7
Oils:—				
Cotton-seed	per ton	15	0	0
Linseed	"	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	2	0
" (red)	"	0	2	9
Potassium (metal)	per oz.	0	3	7
" Bichromate	nett per lb.	0	0	4¼
" Carbonate, 90% (ex ship)	per ton	16	5	0
" Chlorate	per lb.	0	0	3¼
" Cyanide, 98%	"	0	1	1
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	5	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (refined)	per cwt.	1	1	6
" Permanganate	per cwt.	3	15	0
" Prussiate Yellow	per lb.	0	0	6¼
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % (do.)	"	8	15	0
Silver (metal)	per oz.	0	2	2 1/16
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
" " (Caustic Soda-ash) 48 %	" "	4	5	0
" " (Carb. Soda-ash) 48%	" "	4	0	0
" " (Alkali) 58 %	" "	4	0	0
" " (Soda Crystals)	" "	2	5	0
" Acetate (ex-ship)	"	11	15	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	4¼
" Borate (Borax)	net, per ton.	13	0	0
" Bichromate	" per lb.	0	0	3⅜
" Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton (10 ton lots)		8	10	0
" " (74 % Caustic Soda) " " "		8	2	6
" " (70 % Caustic Soda) " " "		7	5	0
" " (60 % Caustic Soda) " " "		6	5	0
" " (pure liquor 90° Tw.) " " "		3	15	0
" " 77/78 % powdered (99 % hydrate)	"	12	0	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
" Nitrite, 98 %	per ton	25	10	0
" Phosphate	"	9	10	0
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	18	0
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	"	6	5	0
" Brimstone: Best Quality	"	4	10	0
Superphosphate of Lime (26%)	"	2	5	0
Tallow	"	21	10	0
Tin Crystals	per lb.	0	0	4¾
" English Ingots	per ton	65	5	0
Zinc (Spelter)	"	18	0	0
" Chloride (solution, 100° Tw.)	"	5	15	0
" Sulphate, Crystal	"	5	15	0

THE

CHEMICAL TRADE JOURNAL

AND

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Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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SUGAR BOUNTIES AND THE CHEMICAL TRADE.

FOR some months past we have been hearing much about sugar bounties and the depression in the West Indies, and now that Parliament has opened it is probable we shall hear still more.

Though at first sight the subject does not appear to be of much significance to those not directly connected with the sugar trade, this question of bounties bears in many ways on various industries in which technical chemistry plays an important part.

The creation of the sugar bounties by foreign governments has practically suppressed the sugar refining industry in this country. This fact tells in another way.

For the last five years or so, experiments have been conducted in Great Britain by Dr. G. Schack-Sommer and others to demonstrate that sugar beets can be grown as a paying crop, and the results of the experiments (as recorded in these columns from year to year) have justified their belief in beet growing, as one means of alleviating the distressed state of agriculture.

This year Mr. S. Stein, in company with certain Warwickshire gentlemen, is repeating the experiments in fresh districts. There is every reason to believe that the results will be quite up to the standard instituted by the previous trials.

Unfortunately it is not sufficient to merely establish the fact that beets of good sugar-making quality can be grown; for there are other difficulties to be overcome before farmers can benefit directly, chief among which is the fact that in the face of the existing foreign bounties it is impossible to make and refine sugar from the beets at home.

Yet, should the present endeavours to accomplish the abolition of these bounties prove successful, there will be a future before those who have made preparations for growing beets. Refineries, and those who are experienced in the manufacture of beet sugar, are not wanting in this country; they are here, waiting for an opportunity to utilise their energies.

The inauguration of beet growing for sugar production would mean business for the fertiliser trade, while the restarting of the refineries would bring business to a good many branches of the chemical trade itself.

It is a matter of importance, therefore, that the bearings of this bounty question should be rightly and clearly understood, and it is also worthy of attention by the chemical sections of Chambers of Commerce. Some of the Chambers have already helped to bring a true statement of affairs before such trades as confectionery and sweet-making—trades that were prone to go against any change, lest it should lead to an advance in sugar. In consequence this threatened opposition has practically been forestalled and avoided.

Those who advocate the abolition of the bounties in no way advocate the taxing of imported sugar. The bounty

system is opposed to the principles of free trade, so there should be no difficulty with the cry of "fair trade."

By exterminating the bounty system, all the producers would be able to compete on level terms, thus giving the West Indies a far better chance of lasting benefit than any evanescent dole could confer. It would not do them serious harm if the change enabled our home refineries to start again, because all who entered the field would do so on the same footing, and the new comers would have to excel in some direction if they were to maintain their position. This form of competition is wholly legitimate and desirable. The West Indies trade has been killed by the bounties, but if on level terms it cannot hold its own in quality and price it must suffer accordingly. It means advancement, and the community must not be deprived of the benefit for the sake of an individual centre of production. As far as can be judged now, Austria, Belgium, and Germany are willing to abolish bounties. France will probably object, but now the United States has put a tax on imported French sugar, she has practically nothing to do but fall in with the majority. If, as is suggested, an International Conference were held, it seems probable that a little argument and persuasion brought to bear on France would quickly lead to the exit of the bounties and leave the arena open to all comers. There is no doubt that any advance in price would be trifling and probably short-lived in the face of such free competition; and as far as we are concerned a reasonable advance cannot be begrudged, seeing that the present profit on ordinary sugar is 1½d. per cwt.

The prospect of removing the barrier that stands between the resuscitation of an erstwhile industry, and the inception of beet growing as a resource for the agriculturist, is therefore reasonable and even hopeful. Its realization should be helped forward by the chemical and allied industries as far as it lies in their power.

THE FILTRATION OF SEWAGE.

On Saturday last, Mr. H. Gilbert Whyatt, assistant borough surveyor for Salford, read a paper entitled "The present position of the sewage purification problem" at a meeting of the Sanitary Inspectors' Association (Lancashire and Cheshire Branch) held at the Royal Technical Institute, Salford. Mr. J. T. Shawcross presided, and there was a large attendance. After reviewing the history of the subjects of preventing river pollution and sewage treatment, Mr. Whyatt referred to the more successful chemical process and the recent

SALFORD EXPERIMENTS WITH ARTIFICIAL FILTERS.

In Salford, he said, experiments had been going on for about ten years, and much time had been spent on various patented processes, chiefly chemical. About five years ago the committee turned their attention to artificial filters. The first set of six filters were arranged at three heights with a ventilation floor between each 20 inches of filtering material. Two filters were composed of gravel and sand, two of coke breeze, and two of cinders, and very good results were at once obtained from them all. Cinders proved the best filtering medium. The experiment was continued for fifteen months at an average rate of 500 gallons per square yard per day, with very successful results. It was then wished to prove the advantage of a preliminary "roughing" filter and varying degrees of aëration; and this experiment was still going on. The filters were tried at varying rates of flow, and so long as a filter did not choke up, the effluent was uniformly good. If the filter choked up it was found that by leaving it idle for a week or two it would recover itself and again take the sewage perfectly. In 1895 two filters eight feet deep were made in order to ascertain whether a deeper mass of filtering material would deal with a larger quantity of effluent, and it was found that while a 5 ft. filter would deal with 500 gallons per yard daily, an 8 ft. one would deal with 800 gallons. In 1896 the filters were run practically continuously for twelve months at the rate of 1,000 gallons per square yard per day, then for a short time at 500 gallons, and now at 700 gallons, the only rest being for a short time daily whilst the small pump supplying them was cleaned. Contrary to expectations, they stood that severe test. In place of the sprinkling troughs spray jets were now used. The surface of the filter was perfectly open, and water was not allowed to collect anywhere. There had been no appreciable growth of the brown sewage fungus since 1895, and the bacterial filters had been protected by a "roughing" filter of fine gravel. Some 25 precipitation experiments had been tried, and the effluent of all passed through the bacterial filters with good results. The Corporation had resolved to spend £80,000. in altering the works and laying down bacterial filters, but the Local Government Board had refused its sanction unless the Corporation included a sum to cover the purchase of land over which the filter effluent might be turned and further purified. Mr. Whyatt considered the time had come when the Local Government Board should be roused from its state of "agnostical immobility," and take upon itself to examine whether there was not the efficiency in bacterial filters that was claimed for them. Mr. Whyatt was accorded a vote of thanks at the conclusion of the proceedings.

MAGNESITE MINES OF STYRIA.

The magnesite mines in Styria, Austria, are owned by two freeholders. One of them in Mitterdorf, near Veitsch, has worked his territory for nine years with great profit, and enjoys the monopoly in this chemical in Austria-Hungary. The other has the adjoining property of about 500 acres, containing magnesite of the best quality. According to Consul Hurst, he has not yet developed the nine mines which he opened, but he is about to begin. There are numerous places in Moravia, Styria, and Silesia, where magnesite is found in paying quantities, but only three concerns are occupied with the preparation of this article for the market. Besides the mines mentioned, there is a small company owning a limited territory near Simmering, which is in the direct neighbourhood of Vienna; but the days of its activity are numbered, since all the surrounding properties have been purchased by a rival Styrian mine owner.

The raw material, consisting mostly of $MgCO_3$, is never found pure, but always contains more or less of impurities of iron and its oxides, silicates, and calcium carbonates. Upon the relation of their impurities to the quantity of pure MgO, the value of the material depends to a great extent, as well as upon the crystalline texture of the rock. If the latter is coarse and contains large-sized crystals, it will be found difficult to burn it perfectly, because this variety shows a tendency to melt. For this purpose ordinary furnaces are sufficient, and, in fact, the whole works consist of nothing else but such furnaces, and quarters for assorting, packing, and storing the product. This, however, only represents a plant where the bye product of carbonic acid is allowed to escape, without making use of it.

Styrian magnesite, in its purest form, is used for therapeutical magnesia preparations. Austrian magnesite in general is also well-known in the iron industry, and its use became quite important (and is now fast increasing) since the invention of the Siemens-Marten furnace, in which it is employed for covering the inside of the furnace. The discovery of the heat-resisting qualities of magnesite led to the manufacture of heat-resisting tiles and bricks from the coarser magnesite, and, no doubt, other uses will follow, which will give a renewed stimulus to the magnesite industry of Styria and elsewhere.

For the profitable working of Styrian magnesite-holding properties, the owners are obliged to consider the crystalline texture of the rock, ascertain the percentage of impurities, and determine whether they can make use of the auxiliary products and the inferior qualities of magnesia.

It is not possible to secure trustworthy figures about the export of magnesite from Austria-Hungary, because none of the numerous Government statistical bureaus specifies magnesite in its reports; on the contrary, all classify it inextricably with other minerals under the head, "Various minerals, ground, washed, or burnt."

The value of the magnesite exported to the United States from Austria-Hungary amounted to £12,440. for the year ended June 30th, 1897.

Alcohol in Hop Ale.—At Stalybridge, this week, William Lever, chip potato dealer, was summoned for selling beer without a licence. In December last, an Excise officer bought a bottle of hop ale from the defendant's shop, which was advertised as non-intoxicating. The Government analyst stated that upon analysis he found the so-called hop ale contained 5·9% proof spirit. The defendant alleged that the spirit had been formed by the bottles standing in the sun in the window He was fined ten shillings and costs.

Electric Power Transmission in Russia.—A company to be known as the St Petersburg Company for the Transmission of Power from Waterfalls has recently been organised at St. Petersburg, Russia, to put down plants for the utilisation of the Narowa, Imatra, and Wuozen waterfalls in the generation of electrical power, and to transmit and distribute the same in St. Petersburg and surrounding districts for electric lighting and power purposes. The capital of the company is $2,000,000.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Apparatus for Purifying Gas. A. E. N. and S. N. Yeadon. 2,444. Jan. 31.
Simultaneous Production of Pure Ortho-nitro-chloro-benzene, and Pure Para-nitro-chloro-benzene. G. W. Johnson. 2,480. Jan. 31.
Waterproofing Leather. D. Mort. 2,482. Jan. 31.
Destructor Furnaces. W. Saint. 2,558. Feb. 1.
Aluminium Flux or Solder. G. Hammond and T. Flint. 2,567. Feb. 1.
Disinfecting Apparatus. W. A. la Fave. 2,578. Feb. 1.
Cooling Device for Coke-oven Gases, etc. R. Boecking. 2,599. Feb. 1.
Tannin Extracts. H. H. Lake. 2,603. Feb. 1.
Disinfecting Apparatus. F. Carman. 2,621. Feb. 1.
Making Peat Charcoal, and Obtaining Calcium Carbide therefrom. A. Handley and W. P. O'Neill. 2,649. Feb. 2.
Collecting and Purifying Waste Gases, etc. J. P. and P. van Gelder. 2,679. February 2.
Electro-deposition of Metals. F. Fisher, B. John, B. James, and A. Round. 2,684. February 2.
Treating Sewage, etc. F. F. Candy. 2,749. February 3.
Manufacture of Soap. C. Davies and A. Arrowsmith. 2,801. February 3.
Manufacture of Acetone and Apparatus therefor. J. Hawliczek and the United Alkali Co., Ltd. 2,813. February 3.
Manufacture of Acetone and Apparatus therefor. F. Hurter and the United Alkali Co., Ltd. 2,816. February 3.
Leather Substitute. G. K. Littlefield. 2,818. February 3.
Purifying Corn Oil. A. J. Ayres. 2,820. February 3.
Drying Salt. W. Shedlock. 2,828. February 3.
Manufacture of Lake Pigments. C. O. Weber. 2,832. February 4.
Rendering Wools Unshrinkable. J. J. Hummel and J. E. Riley. 2,845. February 4.
Treating Lead and Zinc Ores. J. A. Mays. 2,878. February 4.
Dyeing Liquid Compound. J. Gardner. 2,892. February 4.
Improvements in the Manufacture of Portland Cement, etc. E. H. Hurry and H. J. Seaman. 2,896. February 4.
Cement Kilns. J. Hollick and G. Taylor. 2,905. February 4.
Improved Soldering Flux. D. Allport and R. D. Bowman. 2,910. February 5.
Jointing Stoneware Pipes, etc. A. Wakefield. 2,978. February 5.
Producing Calcium and other Carbides. E. Gearing.
Electrolysis of Alkaline Salts. J. Greenwood. 2,998. February 5.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Tanks and Apparatus for use in connection with the same for the Purification and Treatment of Sewage and Impure Waters. F. W. Strong, High Peak, West Cliff-road, Bournemouth. Eng. Pat. 2,228. January 27, 1897.

The suggested improvements are essentially mechanical, and not altogether simple. There are fourteen figures, representing various forms of tanks and sludge-removing devices. A V-shaped tank, with a sludge-valve which allows the accumulated sludge to pass into a small sump beneath, is one form, which is illustrated with several modifications in the construction of the valves, &c. A rather complicated form of sludge-scoop is described, and also a travelling belt scraper. Three types of circular tanks are illustrated, with devices for the overhead removal of the sludge by pumps or syphons, and also the bottom-discharge of the sludge. For particulars the complete specification should be consulted.

Improvements in Bye-product Coke Ovens. H. Simon, 20, Mount-street, Manchester. Eng. Pat. 1,194. January 16, 1897.

This is a modification of the recuperator which is a characteristic feature of the Simon-Carvés coke oven system. Instead of the usual arrangement of parallel brick flues, through which the hot waste gases escape and the incoming air passes to be heated, iron pipes are laid in a brick flue. Either air or waste gases may be passed through the pipes. In the latter case brickwork passages are substituted for the iron pipes at the point where the gases leave the oven and are hottest, the brickwork construction merging into an iron pipe as the gases cool. There are two figures showing the alternate methods of construction.

Improvements Connected with the Concentration or Distillation of Glycerine. E. G. Scott, 67, Lord-street, Liverpool. Eng. Pat. 5,889. March 5, 1897.

In distilling and also concentrating glycerine a certain amount is carried forward by the steam and escapes condensation. A "fractional condenser" is therefore interposed between the still, etc., and the usual condenser. The cooling surface of this fractional condenser is so proportioned that the whole of the glycerine is condensed, but only a very small amount of steam, the majority of which passes on to the usual condenser. The whole of the glycerine is thus recovered without serious admixture with water. There is one figure.

Improvements in Treating Flax, and other Oleaginous Seeds, for the Extraction of Oil therefrom. A. Euston, 3,730, Lindell Boulevard, St. Louis, Missouri, U.S.A. Eng. Pat. 18,550. August 10, 1897.

It is claimed that in the present system of "cooking" the meal before pressing, the "cooking" is incomplete, thus affecting prejudicially the yield of oil. A vertical cooker is therefore suggested, composed of a steam-jacketted cylinder fitted with agitators, while pipes for the admission of air or steam are provided at certain points. The meal in its passage is thus subjected to heat for some time, and is also mixed by the horizontal action of the stirrers, resulting in a more thorough "cooking" and a more regular yield of oil. There are three figures.

Improvements in the Treatment of Oleaginous Seeds for the Extraction of Oil therefrom. A. Euston, 721, Olive-street, St. Louis, Missouri, U.S.A. Eng. Pat. 27,906. November 3, 1897.

Instead of crushing in edge-runners, after de-linting and hulling, the seeds are passed through a train of rolls so adjusted as to fracture the seeds without rupturing the oil cells. On leaving the rolls, therefore, the meal is not soaked with oil, as is usual. On this ground it is claimed that in the "cooking" process, prior to pressing, the moisture added in the "kettle" mixes more thoroughly with the meal. When pressed, therefore, the oil also escapes more readily, as it will not assimilate with the water-soaked meal. The resulting cake is thus more even coloured, being free from dark spots, and more compact. There are three figures showing the mechanism of the rolls.

Improvements in the Treatment of Calcium Carbide. F. Bosca, 6, Via Garibaldi, Turin, Italy. Eng. Pat. 4,675. February 20, 1897.

In order to check the excessive tendency of calcium carbide to absorb atmospheric moisture and liberate acetylene gas, the freshly-made carbide is cooled, and then steeped for a few minutes in lubricating oil, tar, or varnish. When dried, the carbide can be stored for a long time without deterioration, but readily and evenly decomposes in the presence of water when treated in the customary generators. This evenness of action enables the construction of the generators to be simplified.

ADVICE TO BOILER ATTENDANTS.—The Manchester Steam Users' Association, whose office is at 9, Mount-street, Albert-square, Manchester, has issued a poster bearing the name of the chief engineer of the association, Mr. C. E. Stromeyer, and headed "Advice to Boiler Attendants." This course has been taken in view of the recent annual report of the Board of Trade on boiler explosions, in which complaints are made of the negligence shown by boiler attendants. The notice gives, in the first place, some leading points as to the general working of boilers, and, under the heading "Warnings," it next gives some very precise instructions as to what a fireman should do when—an event which, it seems, happens only too often—he has neglected his duty. Hitherto he has been left to rely on his own judgment and resources whenever he has found himself face to face with a threatened explosion, so that the "advice" now given, and intended for posting up in the engine-house itself, should be of much practical utility.

FIRES.—The explosion of a petroleum lamp resulted in a bedroom and its contents taking fire on Sunday last at the dwelling house of J. Jones, William Edward-street, Birmingham. The fire brigade were summoned, and succeeded in subduing the outbreak with the aid of a handpipe, though not before the room and the furniture in it had been severely damaged.—Later in the morning the brigade received a call to the Imperial Enamel Works, Watery Lane. They attended under command of Superintendent Tozer, taking with them a steamer and escape. A storeroom on the ground floor was in flames, and the fire had got such a hold that the brigade had to work for an hour and three-quarters before it was safe to leave. The water supply was obtained from the street main, to which one jet was attached. The flooring of the premises, as well as the contents of the storeroom, suffered somewhat severely, and, having regard to the character of the stock, Mr. Tozer deemed it expedient to leave three men in charge after the general body of the brigade had been withdrawn. The origin of the fire is unexplained.

Reports of Companies.

ROSARIO NITRATE CO. LTD.

THE ninth ordinary annual general meeting of the Rosario Nitrate Company, Limited, was held on Saturday last at Winchester House, E.C., Mr. Archibald Balfour (chairman of the company) presiding.

After discussing and explaining several items in the balance-sheet the Chairman said :—

Another matter to which we allude in our report is that we have closed the construction account of our new oficina. This comes out at £48,131. If you recollect, I took the opportunity at our meeting last year of telling you that our coast manager (Mr. W. P. Robertson) had confidently asserted that he would finish that oficina at less than £50,000. He has done so. All our calculations with regard to cost and efficiency of manufacture have been fully borne out, and I would like to take this opportunity of again calling your attention to the excellent manner in which Mr. Robertson and his staff on the coast have carried out this very important work.

I feel that it is no very great consolation to the shareholders who get no dividend, but it must be to a certain extent a consolation to you that, although we are making no distribution, we have still been able to very materially reduce our liabilities during the past year. Turning now to matters of more general interest, I do not think any good purpose would be served by going through all the many twists and turns that the ill-fated combination went through before it finally expired. It did come to an end, as you all know, in October last. There is no denying the fact that it did not answer the purpose for which it was constituted. All it did in the way of benefiting us and the nitrate trade generally was that it deferred for a certain time the advent of the extremely disagreeable circumstances in which this trade finds itself to-day; but if it has done nothing else, it has, I think, taught all of us who are interested in the nitrate business a very serious lesson, and that is that a combination which has the power to, and does, restrict the output is only an imperfect and half-completed measure if it does not at the same time make a provision for maintaining the selling price of the article. We have been in the past, and are at this very time, actively engaged, along with many others who are interested like ourselves, in endeavouring to form some company, syndicate, or corporation—what it may be called is immaterial—which, while restricting the output, will take into its hands the sole control of all sales of nitrate. Now, in many trades and in many countries these trade arrangements exist, and, to borrow an American expression, these "combines" are nowadays common. Moreover, looking at this particular trade, instead of its being more difficult than usual to form such a "combine," I should say that the nitrate trade specially lent itself to such an arrangement, for it is virtually a monopoly of an article of which the world takes 1,000,000 tons per annum, and which is only produced in one part of the world, namely, the West Coast. But, however that may be in theory, in practice it is no use denying that it is a remarkably difficult operation to get the various interests to combine in a rational manner. We are not able to tell you to-day that we are hopeful—that would be too much; all we can tell you is that we are striving all we can to bring about that extremely desirable result; but in the best of cases I fear it must be a long and arduous negotiation. Our position to-day is simply deplorable; for since the date of the closing of the accounts the market has done nothing but fall, and we have to face to-day the position that the selling price of nitrate has fallen £1. a ton below what it was this day a year ago. Under these circumstances we have decided upon the policy for the immediate future, of restricting to the very smallest amount possible the nitrate that we manufacture, and I think that will commend itself to any business men as the only possible policy to adopt. It would be absolutely suicidal folly to proceed, and to drive our machinery to the last degree possible, and to exhaust our grounds for such absolutely miserable results as present prices leave us. Consequently, we are going to make only such an amount of nitrate as will be sufficient to meet the interest on our debentures—interest, observe, and not sinking fund—together, with our charges. What that figure may come to it is impossible to say; for, naturally, it will very largely depend upon what selling price we find in the immediate future; but we are hopeful that the amount to be made will be rather under than over 1,000,000 quintals. We have a remarkably fine property—and pray do not be shaken from that conviction by articles and ill-natured criticisms which occasionally appear in the press—and it is our policy, and your policy too, that that property should be husbanded and nursed, and not thrown away for nothing. I quite recognise that it is hard upon all persons who invest their money in a business enterprise, with hopes and prospects of getting remunerative dividends, that they should get no income on their investment; but what I have indicated is the only possible course under the circumstances of this trade, and we can only appeal to you to have patience, and to trust to our efforts, and those of many others who are largely interested in this article, succeeding in forming some sort of combination or syndicate such as I alluded to just now.

KENT COLLIERIES CORPORATION, LIMITED.

The statutory meeting of the Kent Collieries Corporation, Limited, was held last week, at the Cannon-street Hotel, London. The Chairman of the corporation (Sir Owen Slacke) presided.

The Chairman said: You are all aware we are present here to-day in compliance with the requirements of the Act of Parliament that every company shall hold a general meeting within four months of its incorporation. No accounts, therefore, will be presented to the shareholders to-day; but you will not, perhaps, be indisposed to allow me to make a few remarks, and to give such information as is in my power with regard to the position and prospects of the corporation.

The point upon which I believe the majority of the shareholders are most anxious for information is with regard to the works at Dover, and in dealing with this question, I will remind you that the establishment of a first-class modern colliery is not only a work of time involving great anxiety, the exercise of great engineering skill and a very large outlay of capital, but it is also one which cannot be carried out without encountering many difficulties, delays and disappointments, and more particularly is it the case in sinking through new and untried ground such of the strata through which our pits have been sunk. The works at Dover have been no exception to this rule. We have had the advantage of the engineering skill of our managing director (Mr. Simpson). We have had the advantage of the assistance and co-operation of our consulting engineer (Mr. Nathaniel Griffith, of Wrexam), and we have also our certificated manager at the works (Mr. Reid), who spared himself neither day nor night. These gentlemen have devoted themselves to ensure the completion of our colliery with the greatest amount of rapidity consistent with efficiency and security; but we have not escaped the usual delays. The difficulties arose in consequence of the character of the strata through which we were passing, strata that is known geologically as the Hastings beds at a depth of about 520ft. I will tell you, however, that as difficulties arise, our staff is always equal to the emergency, and beyond the fact that these difficulties, which after all are of an ordinary engineering character, cause delay there is no other ground for apprehension. In addition to the works at Dover most of you are probably aware that the corporation has acquired mineral rights over very large areas in other parts of the county, and with respect to two of these areas, namely Pluckley and Brabourne, we are undertaking exploration by means of a borehole. At Pluckley the boring has been continued to a depth of 820 ft., at Brabourne to a depth of 530 ft.; but for reasons that will appeal to you as being in the interests of the corporation, I do not propose to at present impart the valuable information that we have already gained. There are, of course, other explorations being proceeded with in other parts of the county, not by this corporation, but by our sister undertaking—the Kent Coal Exploration Company, with whom we exchange information—and I may mention that, should only one of these borings prove successful, it will be a matter of material advantage and profit to this corporation in respect of a large area of mineral rights we own in the immediate neighbourhood of the Exploration Company's enterprise.

Mr. Nathaniel R. Griffith, M.Inst.C.E., said in reply to the questions asked in the letter referred to by the chairman, he wished to state that he was firmly of opinion that the first workable seam of coal would be reached during this year. The difficulties were not only not insurmountable, but they were not extraordinary, and were being overcome well. It was the intention of the board to sink both of its pits down to the 4 ft. seam as fast as possible, and he should recommend the board to ascertain whether there were other seams of coal below that. The great point was that they knew the coal was there. This had been proved by the borehole put down by Mr. Brady.

Mr. Brady said he had perfect confidence in the undertaking, and felt strongly that it would prove successful.

THE INDIA-RUBBER AND TELEGRAPH CO., LTD.

The annual report of the India-rubber, Gutta Percha, and Telegraph Works Co., Ltd., shows, after provision for doubtful debts, a net profit for the past year of £41,045. Adding £22,128. brought forward, and deducting £12,500 interim dividend paid in July, there remains a disposable balance of £50,673. The directors recommend the distribution of a dividend of 15s. a share, free of income-tax, amounting to £37,500., making, with the interim dividend paid in July, a total payment of 10 per cent. for the year, and leaving £13,173 to be carried forward.

SALT UNION, LTD.—A dividend of 1¼ per cent. on the preference shares is proposed by the directors for the past year.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice Romer.)

WEBB *v.* HALLAM AND COMPANY.

MR. PARKYN: My Lord, in the case of Webb *v* Hallam I appear with my friend Mr. Terrell, who is unfortunately engaged elsewhere. This is the case with reference to a certain patent for the concentration of sulphuric acid. It is a motion for inspection.

Mr. Justice Romer: When did the action commence?

Mr. Parkyn: Some time ago, my Lord. It has been adjourned two or three times. I have a very full affidavit here from the plaintiff, for whom I appear, and if I read it I think it will give your lordship a good idea of the matter.

Mr. Justice Romer: This is a motion. Why not a summons?

Mr. Clare: That is one of the objections I am going to raise to my friend's application.

Mr. Parkyn: My learned friend has not raised this objection before. We have appeared on the motion before, and it has been adjourned, and this point has not been raised.

Mr. Clare: Because the application has been adjourned from time to time.

Mr. Justice Romer: The new procedure applies, it should be on a summons for directions.

Mr. Clare: I am not sure they have taken that out.

Mr. Justice Romer: Take out your summons for directions in Chambers.

Mr. Parkyn: The application was made at the time we applied for an interim injunction.

Mr. Justice Romer: Are you applying for an injunction?

Mr. Clare: My Lord, my friend had an application for an injunction. We filed evidence upon that and were prepared to meet it. He then tried to get me to undertake. I said we were prepared to meet the motion, and then Mr. Parkyn, or rather his leader, elected to let the motion go to the trial. We were prepared to fight it, He had at the same time a motion for the purpose of getting this inspection. That stood over from time to time until the defence was put in. I have never waived my right to object to the form of the application at all. I am prepared to make my friend this offer—there is a great deal of feeling between the parties, and there has been a great deal of litigation and opposition to the granting of the patents. What we have suggested is this—that the alleged infringement is by an apparatus which is now at the works of neither the patentee nor the rival company. What we have suggested is that we are quite prepared to supply the plaintiff with a drawing—a proper drawing or description of the apparatus which we have at the works, and if he is not satisfied with that, then we are prepared to allow some neutral trustworthy person—to be nominated if necessary by the Court—to go in and see whether the drawing that we have sent to him is in accordance with our patent.

Mr. Justice Romer: That does not follow. It is a question of costs. I will reserve the costs.

Mr. Parkyn: I submit my learned friend ought to have raised this objection long ago; but the case has proceeded on the assumption that we were going for a motion for inspection, and surely having gone so far we may as well dispose of the motion.

Mr. Justice Romer: I should have raised it whether counsel did or not. It is an improper motion. It ought to have been done on a summons for directions.

Mr. Clare: I am told by my client that the objection was raised at once.

Mr. Justice Romer: Subject to the question of costs.

Mr. Parkyn: We are perfectly ready to meet any extra costs the other side may be put to.

Mr. Justice Romer: What do you ask to have done?

Mr. Parkyn; Perhaps I ought to explain. The defendants in this action assert they are licensees of a Mr. Levinstein, between whom and my client there was a great dispute about the patent some years ago, and that explains any feeling that may have arisen between them to which my learned friend has referred. But I have a very strong affidavit—which I hope you will permit me to read—which puts out the whole facts of the case. There is not the slightest doubt that Messrs. Hallam, the defendants in this action, are using an apparatus which is essentially similar, and is in fact an infringement of my client's patent, and he desires to inspect the apparatus in ordinary course.

Mr. Justice Romer: Where is this apparatus?

Mr. Parkyn: These people live at Burton-on-Trent, I think.

Mr. Justice Romer: Let me follow. The defendants have an apparatus which they are using which you say is an infringement.

Mr. Parkyn: Yes.

Mr. Justice Romer: Where is this apparatus?

Mr. Parkyn: At Burton-on-Trent.

Mr. Justice Romer: Why should they not see it, Mr. Clare?

Mr. Clare: The difficulty about it is this, that Mr. Webb and Mr. Levinstein have been fighting for years over this.

Mr. Justice Romer: That is no answer. Why should they not see it?

Mr. Clare: We have no objection really to people coming on to the works so long as they are more or less neutral.

Mr. Justice Romer: That is nonsense; why should not the plaintiff himself see it? What is the objection?

Mr. Clare: There is an objection to Mr. Webb coming, of course.

Mr. Justice Romer: Why? It is only to see this one machine.

Mr. Clare: I cannot answer that without going into the whole story.

Mr. Parkyn: They have actually not denied the infringement.

Mr. Justice Romer: Is Mr. Webb the plaintiff?

Mr. Clare: Yes, Mr. Webb is the plaintiff.

Mr. Justice Romer: You cannot prevent inspection by the plaintiff. It is nonsense, absolute nonsense.

Mr. Clare: I do not understand my friend's statement. He says we do not deny infringement. If we do not deny infringement I do not see what they want inspection for—if that is his view.

Mr. Justice Romer: I expect he does want inspection.

Mr. Parkyn: He does.

Mr. Justice Romer: He is entitled to inspect.

Mr. Parkyn: May I read the affidavit?

Mr. Justice Romer: No, no.

Mr. Parkyn: It is a complete answer.

Mr. Justice Romer: I have said no. He is entitled to inspect. There must be inspection.

Mr. Clare: I want to be guarded.

Mr. Justice Romer: At reasonable times—inspection to himself and a certain number of experts at reasonable times, and on fixing reasonable times.

Mr. Clare: Will your lordship fix the number of persons who are to come?

Mr. Justice Romer: How many do you want? I should think a couple would be ample.

Mr. Parkyn: We want two experts, the solicitor and the plaintiff.

Mr. Justice Romer: That will do.

Mr. Clare: Very well. Then about the costs of the application.

Mr. Justice Romer: About the costs of this? is there a summons for directions pending?

Mr. Clare: Yes, there is now.

Mr. Justice Romer: I will deal with the costs of this motion when the summons for directions comes on.

Mr. Clare: If your Lordship pleases.

GOLD OUTPUT IN THE RAND.

A RECORD OF RECORDS.

THE output from the Rand district during January, as cabled by the Chamber of Mines, of the South African Republic, amounts to 313,826 ozs., and 22,751 ozs. for the outside districts, a total of 336,577 ozs. This shows an increase of 25,865 ozs. as compared with the previous total, and an increase of 126,745 ozs. as compared with the corresponding month of 1897. The following table gives the monthly returns since the beginning of 1895:—

	1895.	1896.	1897.	1898.
	oz.	oz.	oz	oz.
January	177,463	148,178	209,832	336,577
February ...	169,295	167,018	211,000	—
March	184,945	173,952	232,067	—
April	186,323	176,707	235,698	—
May	194,580	195,008	248,305	—
June	200,941	193,640	251,529	—
July	199,453	203,873	242,479	—
August	203,573	213,418	259,603	—
September ..	194,764	202,561	262,150	—
October	192,652	199,889	274,175	—
November ..	195,218	201,113	297,124	—
December ..	178,428	206,517	310,712	—
Total ..	2,277,635	2,281,874	3,034,674	336,577

SOCIETY OF CHEMICAL INDUSTRY—*Liverpool Section*—The next meeting of the section will be held in the Chemical Laboratories, University College, on Wednesday, February 23rd, 1898, at 7 p.m., when a paper will be read on "The cultivation and manufacture of sugar in India," by J. Walter Leather, Ph.D., F.I.C., late agricultural chemist to the Government of India.

THE CONSTITUTION OF ARSENOPYRITE.

By F. W. Starke, H. L. Shock, and Edgar F. Smith.

THIS mineral is generally described as a sulpharsenide of iron. It has never been determined in what state of oxidation the iron exists, although it is customary to express the composition of the mineral by the formula FeSAs, in which some chemists have thought that the arsenic functions as a dyad element, that arsenopyrite consequently is nothing more than ordinary pyrite, in which an atom of arsenic has replaced an atom of sulphur, or that it is an iron arsenide in which sulphur, acting with a valence of three, has replaced arsenic. There is no experimental evidence favouring either assumption.

Pyrite and marcasite have been studied with the view of ascertaining the condition of the iron in them. It was discovered that the first contained about one-fifth of its total iron content in the ferrous condition, whereas all the iron in marcasite existed in the ferrous state. Subsequent experiments have amply confirmed this observation. Efforts were also made to determine the nature of the iron in arsenopyrite. These resulted negatively.

The present communication presents experimental results obtained during the last few years. These in no wise conclusively prove the constitution of arsenopyrite, but they do furnish data which in the future, perhaps, may prove helpful in the solution of the chief problem.

One of the first steps undertaken was the exposure of arsenopyrite to a current of hot hydrogen. The mineral was placed in a porcelain boat, contained in a combustion tube, and gently heated while the gas passed over it, care being taken that the temperature did not become so great as to break down the hydrogen sulphide produced in the experiment. Some arsenic was also volatilised. Repetitions of the experiment were made, and the escaping gases were collected in receivers containing hydrochloric acid and bromine. The sulphur expelled in this manner equalled 19·92 per cent. Perfectly pure arsenopyrite, FeSAs, contains 19·63 per cent. of sulphur. Here then we have evidence of the quantitative expulsion of the sulphur content. The contents of the boat showed arsenic and iron. The traces of the former observed over the boat and in the tube indicate that the arsenic was not so readily separated from its union with the iron, and therefore we may justly infer that the sulphur was less intimately combined. Returning to pyrite and marcasite, we found that they also, when heated in an atmosphere of hydrogen, lost one atom, or one-half, of their sulphur. This would be fair evidence for the assertion that a sulphur atom in each of these bodies was less intimately combined, and this would argue for a similarity of these minerals in this respect.

Arsenopyrite was next intimately mixed with dry ammonium chloride and heated in an atmosphere of pure nitrogen. On dissolving the boat contents in water and applying suitable tests much ferrous iron was indicated, and at the same time evidences of ferric salts were distinctly observed. As nothing definite in regard to quantity could be ascertained in this way, portions of finely divided mineral were heated with copper sulphate, of varying strength, in sealed tubes. A number of complete decompositions were obtained, but on attempting to titrate the ferrous iron with potassium permanganate, as had been done with marcasite, more iron was found than the mineral actually contained. This meant that same other reducing agent than ferrous salts was present. And in this instance it was no doubt arsenious oxide. This procedure could not, therefore, be regarded as sufficiently reliable to afford an idea of the correct amount of iron in the ferrous state. It served merely to further substantiate the hint gained by heating the mineral with ammonium chloride.

Experiments made upon the direct action of gaseous haloids on sulphide of arsenic proved that the latter was wholly volatilised. It was, therefore, natural to suppose that these re-agents might possibly eliminate arsenic from its naturally occurring compounds. To this end hydrogen bromide, which had been conducted over red phosphorus and phosphoric anhydride, was passed in the cold over a boat containing finely divided arsenopyrite. At first there was no apparent action. On applying a very gentle heat a yellow-coloured sublimate appeared in the cooler portions of the tube. The boat contents became crystalline and yellowish-green in colour. Both ferrous and ferric iron were found, the latter, however, in not very great amount. Several quantitative trials were made :—

Experiment 1.—0·2395 gram. of material heated in hydrogen bromide gave a product soluble in water. When the aqueous solution was titrated with potassium bichromate, it showed the presence of 28·71 per cent. of iron in the ferrous state.

Experiment 2.—0·1507 gram. of the material treated as in 1 gave 27·93 per cent. of ferrous iron.

Experiment 3.—0·1720 gram. of the arsenopyrite, treated as in 1 and 2, showed 26·11 per cent. of iron in the lower state of oxidation.

The variation in the ferrous content in these three trials can easily be explained. To effect the complete decomposition of the mineral, it was necessary to raise the temperature, and this was attended by a slight dissociation of the hydrogen bromide and a consequent partial oxidation of the iron. The experiments, however, possessed value, as they helped to confirm previous efforts in that they showed the presence of a predominating quantity of iron in the lower state of oxidation.

We next resolved to substitute dry hydrogen chloride gas for the hydrogen bromide. When this was done arsenic chloride and a little ferric chloride were carried over into the receiver. The boat contents were white in colour and dissolved completely in water. Some quantitative determinations were made as described under the hydrogen bromide decompositions.

Experiment 1.—0·0682 gram. of arsenopyrite, when heated in hydrochloric acid gas, left a residue in the boat, which was soluble in water, and when the aqueous solution was titrated 30·86 per cent. of ferrous iron was found.

Experiment 2.—0·1332 gram. of the material under similar treatment showed 30·55 per cent. of ferrous iron.

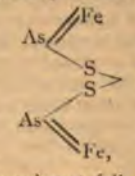
Experiment 3.—0·1675 gram of substance subjected to the same treatment as in 1 and 2, gave 30·16 per cent. of iron in the lower state of oxidation.

These results are concordant and may be accepted as showing the probable amount of ferrous iron in arsenopyrite, the total iron content of which is 34·35 per cent. This would leave about four per cent. of the iron existing in the ferric condition.

The arsenic collected in the receiver gave an immediate precipitate on the addition of hydrogen sulphide, thus arguing for the trivalent condition of that metal. Further, no precipitation occurred with a "magnesia mixture," evidence again of the absence of quinquivalent arsenic, and lastly, in all the complete decompositions of arsenopyrite brought about by copper sulphate, the consumption of potassium permanganate was far in excess of what was required by the iron, even if all of the latter had existed in the ferrous state. It is, therefore, reasonable to assume that arsenic in the trivalent condition was the cause of the excessive reduction, as no other reducing agent was present.

The facts fairly well established by the preceding experiments are: (1), that about seven-eighths of the total iron content represent ferrous iron, the remaining eighth being ferric iron; (2), that the total arsenic is in the trivalent condition. The readiness, furthermore, with which all of the sulphur is removed by hydrogen, would argue for a less intimate union of this element, and indeed that it is scarcely likely that it is in direct combination with the iron.

Any attempt to graphically represent these conditions must be regarded as entirely tentative and indeed speculative in the highest degree. The facts can be empirically represented in the formula $14Fe''As'''S.2Fe'''As'''S$, beyond which we are not justified in going. However, were it not for the slight ferric content, the constitution of arsenopyrite might be graphically written



and all the conditions of experiment fully satisfied. We cannot expect much from such speculative formulas, until we have better and satisfactory evidence in regard to the size of the molecule. Until methods have been devised for the determination of the molecular magnitude of minerals, it will be wiser to merely state the facts, leaving it to future workers to collate them. It may not, perhaps, be out of place to observe that we endeavoured to discover some suitable means of determining mineral molecular magnitudes, but we are still destitute of anything approaching even an approximate method. We sought to learn what influence a weighed quantity of arsenopyrite would exert upon the solidification point of low fusing alloys, *e. g.*, Rose's metal, Wood's metal, without arriving at anything definite. And in the case of certain related minerals (marcasite and pyrite) specific heat and electric conductivity experiments were carried out in the hope of detecting differences connected with varying constitution, but such proved not to be the case—*Jour. Am. Chem. Soc.*

New Paper and Mineral Company.—The International Paper Company, of Corinth, Saratoga County, N.Y., was recently incorporated at Albany, with extraordinary objects and a capitalisation of £9,000,000, divided into £5,000,000. preferred stock and £4,000,000. common stock. Besides manufacturing paper, the company will mine iron, phosphates, clay, sulphur, coal, agolite, and any fibrous minerals and materials, and purchase lots and develop woodlands and purchase and hold merchandise in the United States and Canada. A mortgage of £2,000,000. has been issued on the company's entire property as security for an equal amount of 6 per cent. bonds, payable in gold. The company has absorbed several large paper mills in the East and some of those in the West.

Parliamentary Jottings.

MORTALITY IN THE POTTERIES.

In the House of Commons on Monday, Mr. Holland asked the Home Secretary whether he would consider the wisdom of instituting an inquiry into the working of the existing special rules bearing on the sickness and mortality in the Potteries, and the advisability of referring such inquiry to one of the departmental committees now investigating dangerous trades, such, for example, as that which has the advantage of the services of Dr. Oliver.

Sir M. White Ridley: I have observed with concern the number of cases of lead poisoning which still occur in certain branches of earthenware manufacture. The special rules which my hon. friend refers were based on the recommendation of a committee that made full inquiry into the subject in 1893, and I hardly think it necessary at present to refer it again to the committee. Constant attention, however, has been given to the subject by the factory inspectors, and I have directed a special inquiry to be made as to the working of the rules, and I shall be prepared, if necessary, to amend them in order to secure that they may be strictly adhered to by employer and employed.

NEW BILLS.

Sir F. S. Powell: To make more effectual provision for the prevention of the pollution of rivers and streams—9th March.

Mr. S. Evans: To amend the Coal Mines Regulation Acts—18th May.

Sir C Dilke: To amend the Coal Mines Regulation Acts—18th May.

Mr. F. F. Begg: To amend the Companies Acts—4th May.

ESPARTO IN 1897.

THE most noteworthy features in the trade of the past year were the remarkable recovery in the quantity imported (and consumed), and the gradually widening difference in value between Spanish and African. There is little doubt that three years ago somewhat pessimistic views were entertained as to the future of the trade. That it has not only survived but, in point of quantity, recovered nearly its fullest former vigour, is a proof of its commercial vitality and capacity of adjustment to new conditions. In this connection it may be perhaps not irrelevant to recall what was written 15 years ago, when wood pulp began to attract the very serious attention of papermakers:—"It must not be overlooked that esparto is a waste product requiring no cultivation, that the soil on which it grows is capable of yielding no other crop, and that in the early days of the trade Spanish grass was sold, and sold at a profit, at £4. 10s. per ton delivered in England, and this price, with corresponding rates for African, might be, and probably would be, seen again before esparto ceased to be the staple article for papermaking it is to-day." When those words were written the price of Spanish was £8. 12s. 6d., Algerion £7, and Tripoli £6. 15s. per ton. To-day Spanish ranges from £4. 10s to £5. 7s. 6d., African from £2. 15s. to £3. 5s., and these values, taken in conjunction with the twelve months' import, go far to prove the accuracy of the forecast made in 1883 An analysis of last year's statistics shows that Scotland with a consumption of 113,399 tons has exceeded the large figure of 1896, although the percentage of U K. import is reduced from 60 to 55⅔. A revival of consumption in Lancashire is manifested by an increase in the importation from 30,797 tons to 37,280, while the North-East of England has received through its Tyne and Wear ports 8,712 tons more than in 1896.

The course of market prices has been somewhat irregular, and very early in the year the difference in value between Spanish and African began to widen. The trade opened in January with a full demand which was fully responded to by African, but more cautiously by Spanish, sellers. The large arrivals passed rapidly into consumption on existing contracts, and consumers were so full of manufacturing orders that they scarcely offered any opposition to taking surplusage of cargoes prematurely to account of contract deliveries. During February, notwithstanding heavy receipts, Spanish for early shipment was in request, and prices advanced 2s. 6d. per ton with a sympathetic firmness spreading to distant shipments. On the other hand African was slow of sale and there began a drooping tendency in values which continued with little interruption throughout the year. The market in March, with one or two active periods, ruled dull, but an improved tone set in during April, with a distinct hardening of Spanish values, and a large business was concluded for distant delivery. No new or important features developed in May or June, but the slight firmness of African proved of brief duration, and negotiations either dragged or were closed by some concession on sellers' part. As the term of the half-year approached inquiry slackened—most of the largest consumers had by this time secured extensive and pretty far reaching contracts, while those who stood out were inclined to postpone dealing till a later period. With July came a revival of demand which sellers met freely at first, but they became less responsive as advices from the producing countries regarding prospective supplies became less reassuring and freights showed unmistakable signs of advancing. During this month and until the end of August the activity continued; consumption, under the influence of undiminished paper manufacture, was well maintained, while esparto arrivals fell off through the scarcity of steam tonnage. Spanish of the first grade proved to be insufficient in supply for the full needs of consumers, who, both at this time and later, were constrained to eke out their requirements by the partial use of a lower quality. September was a dull month with brief intervals of inquiry, chiefly for Spanish of winter and spring shipment, and this was followed by an irregular October and November, when the divergence between Spanish and African became very pronounced. The former variety was sparingly offered, but the latter, under pressure of persistent sellers, underwent a fall which was somewhat smart considering the already attenuated price. This, however, had the effect of attracting buyers, and some extensive transactions were concluded, with delivery extending to the end of 1898 and even beyond. The influence of restricted steam tonnage was shown by the diminished arrivals during these autumn months, but with an easier freight market the imports of December rose again, and brought the year's record to a higher point than had been touched since 1892.

Spanish was an average, but not such a heavy import as in 1896, and the tendency of prices was pretty persistently towards a higher range. Only at the very beginning of the year was there any indication of weakness, and this quickly gave place to an upward movement, which was steadily maintained during the spring. The firmness of sellers convinced buyers that they must be prepared to pay 2s. 6d. to 5s. per ton more for distant contracts than they had done in the previous year, and only a few consumers who had operated early escaped this advance. The reports current in the market in April-May as to a prospective short crop were fully confirmed by diminished shipments, and when the long drought, which had stunted the growth and rendered much of the crop unfit for first quality, came to an end, a series of storms and floods in Southern Spain discoloured and injured the grass, and greatly interfered with its transport to the Coast. During the latter months of the year a ready market awaited any unsold arrivals, and some parcels changed hands at very full prices, while a feature was the willingness of first quality consumers to purchase seconds. Sellers for the most part acted with considerable caution and almost invariable firmness, but it is doubtful whether the crop was not, after all, slightly oversold. Only at the fag end of the 96-97 season did the shipments give rise to complaint on the ground of inferior quality, and when the difficulties which latterly have surrounded the baler and shipper in dealing with the crop are borne in mind a certain measure of credit is due to them for overcoming them as well as they did.

Algerian was a very large import, and one has to go back to the year 1888 to find a record of greater magnitude. Each month, with the exception of July and October, brought large supplies to the consumer in spite of a persistently falling market value. A slight pause in the downward course of prices about the middle of the year was followed by renewed pressure to sell ahead, and this finally attracted consumers of other African descriptions. With more than one important mill, contracts were made for Algerian supplies to the exclusion of other sorts, but even these unusual outlets failed to support prices, which were quoted at their lowest in the last month of the year.

Tunisian was early in the year disturbed, and ultimately disorganised by the lowering of the export duty, levied at the shipping ports, from 11s. to 4s per ton. Primarily intended, it was said, for the benefit of the Arab collector, this movement completely failed to effect its purpose, either in permanently raising local market prices to an equivalent of the remitted duty, or in causing a material expansion of exportation. What it did succeed in effecting was a complete unsettlement of market prices and ratios of value, not alone of Tunisian, but of Tripoli and probably Algerian also. The import was 1,800 tons above 1896, but the sudden break in prices had little or no effect in stimulating consumption. The qualifications of Tunisian are fully appreciated only by a small number of Esparto users, although probably its merits deserve a wider practical recognition in the light of to-day's prices.

Tripoli arrivals expanded by 10,000 tons over the previous year and the consumption in some districts seems to have risen proportionately, aided, doubtless, by the continuous decline in price throughout the twelve months. The fall in the late autumn was sharp, and some importers expressed themselves unable to follow it in view of the likelihood of curtailed gathering during the current year. Beyond these facts there is little to chronicle in the history of this description, the quality of which has been well maintained. The total shipments into the U.K. n 1897 were 204,579 tons as compared with 187,278 tons in 1896.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

PURE POTASSIUM CARBONATE.

(To the Editor of the Chemical Trade Journal.)

SIR,—Referring to the item marked "Pure Potassium Carbonate" in the correspondence column of your No. 560 (p. 123), we shall thank you if you will give your friend our name, as we are making a speciality of just those highly refined qualities of carbonate of potassium he appears to be in want of. Hoping to be able to be of use to you in return, we remain, yours, etc.,

SALZBERGWERK NEU-STASSFURT.

Neu-Stassfurt bei Stassfurt, February 15, 1898.

(To the Editor of the Chemical Trade Journal.)

SIR,—Your correspondent "Carbonate" in last week's issue is asking for a pure carbonate of potash. If he should require this in the hydrated form, I can offer it delivered Manchester at 20s per cwt., if in any other form perhaps you would kindly let me know.—Yours truly,

W. H. COWBURN.

29, Princess-street, Manchester.

(To the Editor of the Chemical Trade Journal.)

SIR,—We note letter signed "Carbonate" in your last issue, and have no doubt we can supply his wants, and send copy of analyses of the usual qualities sold on the market:—

	No. 1.	No. 2.	No. 3.
Carbonate Pot.	98·50	96·98	92·04
,, Soda	·15	·86	1·44
Chloride Pot.	·10	·80	1·25
Sulph	·50	1·08	1·27
Water	·60	·48	3·88
Residue	·02	·10	·10
	100·00	100·00	100·00

If your correspondent will say which he prefers and the quantity he will buy we shall be pleased to quote him.—Yours, etc.,

60, Mark-lane, E.C. CHAS. LAMB AND CO.

[G. K. B.; H. B., AND OTHERS, who have sent samples or written us in connection with "Carbonate's" inquiry, have been duly placed in communication with our correspondent and their samples forwarded.—ED. *C.T.J.*]

Trade Notes.

BACTERIAL TREATMENT OF SEWAGE.—The *Councillor and Guardian* learns "on the highest authority" that the Government have decided to appoint immediately a Royal Commission to inquire into the bacterial treatment of sewage.

SOCIETY OF CHEMICAL INDUSTRY.—*Nottingham Section.*—The fifth meeting of the session will be held on Wednesday, February 23rd, 1898, in Room No. 23, University College, Nottingham, at 7.15 p.m. Business: Discussion on "A convenient method for the separation and estimation of Gallic Acid in the presence of Tannin." See paper by W. P. Dreaper, Journ. 1893, p. 412. A short note on discrepancies in Sumac analysis probably caused by presence of Gallic Acid will be communicated by the secretary.

THE TALLOW MARKET.—The tallow market has been somewhat disappointing during the past week. At last week's sales 1,723 casks were offered at public sale, and only 263 casks were disposed of under the hammer, but the balance was sold afterwards privately. Better prices were accordingly expected at the sales this week, especially as the January shipments from the colonies only amounted to 1,841 tons, as compared with 5,971 tons in January, 1897. The quantity sold this week publicly was 1,130 casks, out of 2,139 casks offered, but this quantity was increased up to 1,500 casks by private sales. The supply of home melt is increasing, and is accordingly competing with the colonial product. Still prices will probably be maintained if the shipments keep right, which they are expected to do during the next quarter of the year. For the first three months of last year the total shipments from Australia amounted to 17,610 tons, and the exports this year are not likely to amount to anything like this total, while the stocks are now only about 34,000 casks, as against 52,210 casks twelve months ago. The position, therefore, suggests that prices will be maintained, if not advanced to a small extent.

RIVER PURIFICATION.—On Monday, at the monthly meeting of the Ribble Joint Committe, Mr. Alderman Lightbown (Darwen) presiding, a letter was read from the Burnley Rural District Council, stating that they had received the permission of the Local Government Board to borrow money to carry out the Hapton scheme, and pending the consideration of tenders for the work a further adjournment was granted by the Committee.—Croston Urban District Council, against whom an order of court was made some time ago and a fine amounting with costs to £114. was imposed for failure to comply with the order, wrote saying an inquiry was to be held, and pending the result of this inquiry it was decided to let the payment of the fine stand over.—Mr. H. Walmsley, of Leyland, wrote complaining of the state of Bannister's Brook, running from the gasworks to Earnshaw Bridge, and stating he had drawn the attention of the Local Board to it over twelve months ago. It was stated that two public inquiries had been held, but no reply had been received from the Local Government Board respecting permission to raise a loan for sewage purposes. In order to admit of the reply being received the matter was further adjourned.—The cases of several other authorities and manufacturers which were satisfactorily reported upon were adjourned for varying periods.—A recommendation from the Finance Sub-committee that the clerk be paid in future £100. per annum to cover all expenses was adopted.

POSITION OF INDIAN INDIGO.—The following is a summary of the latest official reports on the indigo crops in India. In Bengal the area sown with indigo is now reported to have been smaller than the average, the contraction—which is marked in Muzaffarpur, Nadia, Midnapur, Jessore, and Rajshahi—being due to insufficient rain at sowing time. The crop suffered greatly in Midnapur, Murshidabad, Saran, Champaran, and Purnea from the absence of seasonable rain, and in Jessore from heavy rain towards the end of the season, while in Champaran the second cuttings were particularly poor. The yield of indigo is estimated for Behar at 27,935 cwt. and for Bengal at 22,547 cwt., against 27,716 cwt. and 11,687 cwt. as estimated by Messrs. William Moran and Co. The Director of Land Records and Agriculture considers that the estimate of that firm is more correct, though a large quantity of indigo produced and used for local consumption in Bengal does not come into the Calcutta market. In the Madras Presidency the area sown with indigo is about 14 per cent. smaller than the average. The contraction is great in Kistna, Nellore, and the Deccan, being due not so much to the deficiency of seasonable rain as to the replacement of indigo by food crops. The crop was reported to be in good condition, though more rain was needed in places at date of report. The yield is estimated at about 45,500 cwt., which is nearly 25 per cent. less than the average. In the Punjaub the area sown in the seven important indigo-growing districts is 19·2 per cent. more than the average. The yield is estimated at 17,392 cwt, being about 9 per cent. above the average. As regards the North-west Provinces and Oudh no very recent report is quoted, but it is stated that about 377,000 acres were sown, an area which is greatly in excess of the average, and that the yield is estimated to amount to 37,500 cwt., being 13 per cent above the average.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are a trifle steadier, but there is no appreciable difference in the quotations from those last given. Carbolic acids are firm, with crude at 2s. 1d. and crystals 40% at 7½d. Crude naphtha is weak at 8d. Solvent unchanged. Creosote is a firm market, but heavy oils are not quite so healthy. Pitch is more promising, and is moving much better. There is not much risk of the market being glutted. Quotation for f.o.b. East Coast is 18s. to 19s.

Sulphate of ammonia has not been doing so well this week, and prices have fallen to a bare £10. at all ports. Stocks are well in hand, however, and although there is a marked absence of any buying, deliveries on contract are in full swing, so that there is no anxiety to sell on the part of makers. They are like Barkis—willing, and just as willing to wait for buyers to rise to the occasion.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business is moderately active in all the principal products, and while there is an absence of any improvement in prices values, as a whole, are well maintained. Bleaching powder is in good demand for export and home trade, nearest spot prices being £6. hardwoods, f.o.b. Liverpool, and £5. 5s. softwoods f.o.r. makers' works. Chlorates continue depressed; soda at 3⅞d. and potash 3¼d. per lb. Ammonia alkali is steady at £4. f.o.r. makers' works, prompt and forward delivery. There is a fairly good inquiry for caustic soda, spot delivery, and quotations f.o.b. Liverpool are as follows:—77%, £8. 10s.; 74%, £8. 2s. 6d.; 70%, £7. 5s.; 60%, £6. 5s., nett, 10-ton lots.

e of copper rather dearer at £16. 15s., f.o.b. for early delivery. r, £4. 10s. f.o.r. Saltcake unchanged at 18s. to 19s. for works. ystals and bicarbonate without alteration. Potash, caustic, and ate in fairly good inquiry, and prices are steady. Yellow prussiate h firm at 6¾d. ; soda, 5½d. per lb. ; cyanide, 1s. 1d. per lb. cyanides quiet. White powdered arsenic £20. 15s. to £21. brands. Acetates of lime are firm, and stocks light. Other unchanged. Nitrate of soda 7s. 6d. per cwt. Borax rather Epsom salts are lower. Sulphate of iron in good general at fair prices. Alum and sulphate of alumina in fair demand, es rule low. Ammonia salts are firm. Business generally in ls is quiet.

REPORT ON MANURE MATERIAL.

e has been a moderate business doing in material. Manure cturers are, however, very busy with export orders, and already lemand has set in, both giving promise of a good season, and demand of raw material as the season advances. Raisers of Florida phosphate rock are assuming a firmer attitude on the of much reduced stocks at the mines and of reduced output. goes c.i.f to good United Kingdom ports about 6⅛d. per unit ow have to be paid. Tennessee rock, 77/80%, continues to offer at per unit., raisers being more anxious to effect sales. The on for South Carolina River rock remains 5½d. per unit, and r 58/63% Algerian 5⅛d. per unit. Bombay bone meal is at firmer, and £4. 5s. would now have to be paid, r for shipment. Nitrate of soda is in fair demand, but, supplies mple, fine quality may still be had at 7s. 6d. per cwt.

IVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

S.—Palm oil is scarce, but has been settling fairly well, with s £18. and soft £18. 15s. per ton. Olive is in short supply n, at £33. to £33. 10s. for Spanish. Linseed is firmly held at to 17s. cwt., for Liverpool makes in export casks, with only flerings. Cottonseed stands at 14s. 9d. to 15s. 6d. cwt., and is thereat. Castor oil is very firm at 3 5/16d. for both good seconds a and first pressure French. Tallow is moving satisfactorily, at rative prices. Resin is steady, with a fair business doing in all at recent full figures. Spirits of turpentine are steady on spot, 9d. cwt. Petroleum quiet, with sellers of Russian refined at and American 5d. to 6¼d. per gallon.

ES.—Arrivals have been rather heavy, and consequently values ceded 2s. 6d., but the demand has again been fairly active with of American Western linseed on the spot at £6. 7s. 6d., to 6d., but Liverpool makes continue to have a firm market, with usiness doing for consumption at previous rates, viz., £8. 5s. to per ton, according to brand. American decorticated cottonseed eady, with a moderate trade passing at former rates for good choice viz. £5 5s. to £5. 15s. according to quality but Liverpool are rather easier for some brands, though the quotation is d at £6. 5s. to £6. 10s. per ton, with a moderate business thereat. Liverpool undecorticated brands are steady, and in ctive request at previous currencies, viz, £3. 17s. 6d. to , according to brand. Spot parcels of Egyptian are barely with sellers at £3. 18s. 9d. per ton. There is a fair inquiry.

OURS.—Prices are steady, and practically without change. : Oxfordshire—common £10., medium £12, best £15 ; hire—common 40s., medium 50s., best 60s. ; Welsh—best 9.s., 50s., and common, 18s. ; Devonshire, 40s. to 45s. ; J.C., 65s. Umber : 40s. to 45s. White lead : £16. Red changed. Venetian red : £6. to £10. Cobalt : Prepared s. 9d. ; black, 9s. ; blue, 6s. Oxide of iron : Common, £7. ; , £10. ; finest, £20. Zinc oxide : £22. 10s. to £25.

THE METAL MARKETS.

DON, WEDNESDAY.—Pig iron quiet : Scotch warrants closed 8d. ; Middlesbro', 40s. 7d. cash ; and hematite, 48s. 8½d. Copper Chili bars, G.O.B.'s and G.M.B.'s, closed at £49. 10s. to 5s. cash, and £49. 16s. 3d. to £50. 1s. 3d. three months. asier : Straits closed at £64. to £64. 10s. cash, and s. 3d. to £65. 1s. 3d. three months ; Australian, £65. ; English £65. 15s. Lead easy : Spanish, £12. 8s. 9d. to £12. 10s. ; , £12. 12s. 6d. Silesian spelter, ordinary, £18. 1s. 3d. to . 6d. Nickel, 1s. 2½d. Antimony, £30. 5s. Quicksilver : nds, £7. 2s. 6d. ; second hands, £7. 1s. 6d. *Copper shares* Cape, 4 15/16 to 5 1/16 ; Copiapo, 2⅜ to 2½ ; Libiola, 2⅝ to 2⅞ ; nd Barry, 3⅝ to 3⅞ ; Rio Tinto, 28¾ to 28⅞ ; Tharsis, 7¼

GLASGOW, WEDNESDAY.—Market steady and a small business. Scotch done at 45s. 8½d. to 45s. 8d. cash, and 45s. 11d. month ; buyers, 45s. 8d. cash ; sellers, ½d. higher. Cleveland, buyers, 40s. 7d. cash ; sellers, ½d. dearer. Cumberland hematite done at 48s. 9d. cash, and 48s. 11d. to 48s. 11½d. month ; buyers, 48s. 8½d. cash ; sellers, 48s. 9d. Middlesbrough hematite, buyers, 50s. 4½d. cash ; sellers, 50s. 9d.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Business continues equal to average, being neither better nor worse. Prices may be described also in the same way. Oil extracting by the solvent process promises to become an important addition to the industry here. The new company lately formed has about completed their works, and are almost prepared to try conclusions against the established company, which has proved so successful. The imports to date have been :—Linseed, 36 728 quarters against 59,183 quarters ; rapeseed, 16,919 quarters against 11,588 quarters ; cottonseed, 46,369 tons against 23,741 tons ; oilcake, 2,475 tons against 1,050 tons ; olive oil, 418 tuns against 284 tuns. Linseed oil is very quiet, being quoted spot and month 15s. per cwt. naked ; forward March-April, 15s 1½d. ; May-Aug., 15s. 3d. sellers. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton quiet, spot naked sellers, 12s. 7½d. ; forward Feb.-April, 12s. 10½d. ; May-August, 13s. 6d. sellers. Filtered oils, £1. to £1. 5s. per ton extra ; barrels, £1. 10s. and ordinary casks £1. per ton extra. Castor oil promises to be higher, but for the moment unchanged. The stocks of olive oil here are almost nil and prices nominal from £34. per tun. Olive oil soaps on the spot are very scarce, quoted from £16 up. Cod oils from £15. 10s. to £18. per ton. Resins unchanged. Turpentine 25s. per cwt.

CAKES.—The market for feeding stuffs finds a fair demand, which would be improved by more seasonable weather. Linseed cakes are very quiet in demand, but steady in price ; 95% pure £8. to £8. 2s. 6d. per ton ; oil cakes (linseed) £6. 17s. 6d. to £7. ; Russians, £7. 7s. 6d. to £7 12s. 6d. Cotton cakes, best makes, £4. to £4. 1s. 3d. ; seconds, £3. 17s. 6d. to £3. 18s. 9d., with fair demand. Decorticated meal, £5. 15s. to £5. 17s. 6d. Rape cakes, Black Sea, £4. 5s. per ton.

PAINTS.—The open season favours this trade, and the demand so far is equal to expectations so far as it affects the home trade. Mineral dry colours from £3. to £8. per ton. Ready mixed paints from 24s. 6d. per cwt. Ordinary colours in oil from £9. per ton. Paint remover, 25s. per cwt. Black varnish £5. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The Scotch makers of bichromate of potash and bichromate of soda have of late been further driven to straits owing to the increased rivalry of the importers of the German manufacture. The latter have followed in every step of reduction, and have always aimed at being in advance with their concessions to consumers. As a third drop within a very brief space of time, the home makers now allow 2½% off. It is said that the foreigners in some cases have allowed 5% off. Sulphate of ammonia has been rather idle, buyers holding off for a fall, and makers feeling disinclined to go much lower just at the moment. Prompt Leith quotation is £10., with a little higher for Glasgow delivery. There is nothing moving in forward dealing. Sulphate of copper has stiffened a little, holding late quotation well. Crystals and caustic are unchanged in price, but fairly active. Mineral oils and paraffins present no new feature.

Chief prices current are :—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne ; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne ; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow ; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 5s , 60/62° £6. 5s., and cream 60/62° £6. all nett, Liverpool ; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne ; saltcake, 18s. ; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow ; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool ; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow) ; bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow) ; chlorate of potash, 3⅜d. less 5%, any port ; nitrate of soda, 7s. 6d. to 7s. 9d. ; sulphate of ammonia, £10. prompt, f.o.b. Leith ; salammoniac, first and second white, £35. and £33. nett, any port ; sulphate of copper, £16. 10s. less 5% any port ; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb. ; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb. ; paraffin spirit (naphtha), 6½d. to 7d. per gallon ; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower) ; ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were nil.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are still very quiet and only a moderate business doing. Soda crystals £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77%, £9. per ton and 70%, £7. 10s. per ton. Sulphur steady at £4. 15s. to £5. per ton.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is firm at 9s. to 9s. 6d. per ton, with good shipments.

COALS.—The market is quiet though there is a fair general demand. Gas and household coals are quiet. There is a better consumption for manufacturing coals, and coke is steady for local consumption and for export. Prices are:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; gas coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; small steam, 3s. 3d. to 3s. 6d per ton; coke, 17s. 6d. to 21s. per ton.

New Companies.

Rincon Silver-Lead Mine, Ltd.—CAPITAL £120,000. in £1. shares. This company has been formed to acquire the business of the Almodovar Silver-Lead Mining Co., Ltd. (registered in 1893), to adopt an agreement with the said company and Wm. M. Brown, and to acquire, own, and work any mines, lands, quarries, works, buildings, mining rights and privileges in Spain or elsewhere. The subscribers to the memorandum of association are:—A. Fellows, 33, Park-road, Jarrow-on-Tyne, manager; J. Hall, 9, Prior's Terrace, Tynemouth, shipowner; J. V. Gregory, Quayside, Newcastle-on-Tyne, coal fitter; E. J. Hall, Dilston Hall, Corbridge-on-Tyne, merchant; J. Robson, 2, Hartland Terrace, Newcastle-on-Tyne, manager; P. Schmitz, King-street, Newcastle-on-Tyne, merchant; J. Hall, 3, Ellison Place, Newcastle-on-Tyne, shipowner.

Spottina, Ltd.—CAPITAL £5,000. in £5. shares. This company has been formed to acquire and carry on the business of manufacturers of a preparation for removing stains and cleansing fabrics, known as "Spottina," carried on at Kingston Mills, 52 and 54, Granville-road, Kilburn, and to adopt a certain agreement. The first directors are R. N. Cunningham, T. W. Pegg, R. G. Sidford, A. C. Cunningham, and N. L. Stocken.

W. A. Bishop & Co., Ltd.—CAPITAL £20,000. in £10. shares (1,000 £5 per cent. cum. pref.). This company has been formed to acquire and carry on the business of manufacturers of borax, boracic acid, sulphate of soda, carbonate of lime, and other chemicals, carried on as "W. A. Bishop & Co.," at Warrington, Lancs., and at 13, Idol Lane, E.C., and to enter into a certain agreement. The subscribers to the memorandum of association are:—W. A. Bishop, 13, Idol Lane, E.C., merchant; T. N. Tyndale, 13, Idol Lane, E.C., merchant; A. Pearce, 8a, New Inn, Strand, W.C., solicitor; E. L. Fleming, Woodfield, Weaverham, Cheshire, manufacturer; Mrs. M. M. Fleming, Woodfield, Weaverham, Cheshire; E. W. Woods, 55, Horsemarket-street, Warrington, solicitor; Mrs. A. M. Woods, Walton House, near Warrington.

Tarakan Petroleum Oil Syndicate, Ltd.—CAPITAL £20,000. in £100. shares. This business has been formed to carry on all kinds of exploration business, in particular to search for mineral oils. The subscribers to the memorandum of association are:—L. Doran, 12, Windsor Terrace, Glasgow, accountant; W. Lunan, 6, Belgrave Terrace, Glasgow, accountant; J. Braidwood, 296, Renfrew-street, Glasgow, accountant; H. M'Couville, 27, Newton Place, Glasgow, accountant; C. Barr, 14, Knowe Terrace, Pollockshields, accountant; J. Sutherland, 9, Herriet St., Pollockshields, accountant; A. Brown, Milverton, Lenzie, accountant. Registered office: 45, Benfield-street, Glasgow.

Vulcan Fuel Syndicate, Ltd.—CAPITAL £10,000. in £1. shares. This company has been formed to deal with, manufacture, and render saleable, as fuel, etc., peat, or any fibrous or other substance, coal dust or refuse, coke, etc. The subscribers to the memorandum of association are:—C. Cummins, 1, Foster Place, Dublin, accountant; J. Chambré, Commercial Buildings, Dublin, merchant; F. Cooke, Commercial Buildings, Dublin, bookkeeper; W. Chambré, Commercial Buildings, Dublin, merchant; E. Chambré Hardman, 14, Molesworth-street, Dublin, land agent; T. B. Hardman, 14, Molesworth-street, Dublin, solicitor; W. B. Hardman, 14, Molesworth-street, Dublin, solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

M. HALE and G. THOMPSON, chemical manure manufacturers, Mark-lane, E.C., and Abbey-lane, West Ham, E., under the style of W. H. Hale and Thompson.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

F. B. DENTON, Bradford, late salt dealer.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 5th.

Acetic Acid—

Holland,	50 pks.	Phillipps & Graves
,,	10	F. Stahlschmidt & Co.

Alkali—

France,	50 c.	J. Barber & Co.

Alum—

Holland,	130 cks.	Ohlenschlager Brs.

Asbestos—

Italy,	£490	British Asbestos Co.
,,	140	Bender & Martiny
Canada,	700	Deering & Robottom
U. States,	549	W. Byford
Italy,	58	London Asbestos Co.
Germany,	68	Craven & Co.

Barytes—

Belgium,	35 cks.	W. Harrison & Co.
Germany,	22	Phillipps & Graves
Holland,	102	J. L. Lyon & Co.
Germany,	57	W. Harrison & Co.
Holland,	46	,,
,,	4	200 bgs. Harrison & Co.

Bone Meal—

E. Indies,	300 t.	Fox, Roy & Co.
,,	800	N. Waterhouse & Sons
,,	350	A. Hunter & Co.
,,	150	Union Ltge. Co.
Germany,	100	A. Hunter & Co.

Bromide of Iron—

Germany,	£825	A. & M. Zimmermann

Camphor—

Japan,	67 pks.	City Coml. Wf., Ltd.

Caoutchouc—

France,	4 c.	Lewis & Peat
Singapore,	136	L. & I. D. Jt. Co.
,,	51	Huttenbach & Co.
Germany,	30	Butler's Wf., Ld.
France,	200	W. Balchin, Ld.
Melbourne,	150	D. Baird & Co.
Germany,	7	F. Huth & Co.
Zanzibar,	9	S. Figgis & Co.
,,	31	L. & I. D. Jt. Co.
Madagascar,	14	,,
U. States,	1	,,
Straits,	101	Butler's Wf., Ld.
,,	67	Prop. Bull Wf.
France,	18	Hale & Son

Castor Oil—

E. Indies,	50 cs.	R. G. Hall & Co.
Italy,	10	Hodgkinson, Clarke & Co.
Belgium,	41 brls.	R. G. Hall & Co.
Italy,	5	A. Lanning & Co.
E. Indies,	100 cs.	Anderson, Weber & Smith

Caustic Potash—

France,	£10	J. A. Reid
Germany,	85	J. M. Steel & Co.

Chemicals (*otherwise undescribed*)

Holland,	£18	T. H. Lee
,,	30	G. Rahn & Co.
France,	70	Hemu, Peron & Co.
Germany,	12	Butler's Wf., Ld.
,,	68	Phillipps & Graves
,,	60	L. & I. D. Jt. Co.
Belgium,	186	T. Palmer
Germany,	600	A. & M. Zimmermann
Belgium,	31	John Cockerill Line
,,	178	T. H. Lee
Germany,	5	J. Barber & Co.
Sweden,	20	M. D. Co.
Belgium,	82	Gas Light & Coke Co.
Sweden,	16	G. Boor & Co.
Germany,	60	Craven & Co

Citrate of Lime—

Italy,	45 cks.	Thames S. T. & L. Co., Ld.
,,	22 pks.	B. Jacob & Sons

Cream of Tartar—

Spain,	5 pks. 2 cks.	B. & F. Wf. Co.
Italy,	31	B. Jacob & Sons
France,	10	B. & F. Wf. Co.
,,	10	C. F. Gerhardt
,,	4	L. & N. W. Rly. Co.
,,	5	M. Ashby, Ld.
E. Indies,	12	Fellows, Morton & Co.

Creosote—

Germany,	30 cks.	J. M. Steel & Co.

Dyestuffs—

Alizarine

Holland,	23 brls.	G. Rahn & Co.

Aniline

Belgium,	33 pks.	W. Gerson & Co.
Germany,	10	Butler's Wf., Ld.

Annatto

E. Indies,	6 pks.	L. & I. D. Jt. Co.

Argols

Italy,	30 pks. 84 cks.	Thames S. T. & L. Co.
,,	307	B. Jacob & Sons

Cochineal

Canaries,	6 pks.	Knowles & Foster
,,	4 bgs.	Hendry & Martin

Cutch

Straits,	660 pks.	J. Swire & Sons
Rangoon,	100	L. & I. D. Jt. Co.
Straits,	100	Hoare, Wilson & Co.

Extracts

Austria,	125 brls.	Bailey & Leetham, Ld.
,,	125 27 t.	Boeuchen, Mortimore & Co.
France,	1 ck.	Prop. Hay's Wf.
,,	19 cs.	Union Ltge. Co.
,,	50 pks.	Bennett S. S. Co.
,,	5	T. H. Lee
,,	150	L. J. Levinstein & Sons
Denmark,	2	M. D. Co.
France,	35 40 cks.	B. & F. Wf. Co.

Germany, 30 t. Darling Bro.

Gambier

Belgium, 502 pks. Hoare, Wilson & Co.
Straits, 557 Beresford & Co.
" 926 Brinkmann & Co.
" 52 J. Swire & Sons
" 996 Hoare, Wilson & Co.
" 2,453 Adamson, Gilfillan & Co.

Indigo

E. Indies, 5 chts. F. Huth & Co.
" 15 Arbuthnot, Latham & Co.
" 19 T. Barlow & Bro
Holland, 3 cks. G. Rahn & Co.
E. Indies, 13 chts. H. Johnson & Sons
" 16 Binny & Co.
Belgium, 2 pks. John Cockerill Line
E. Indies, 10 chts. Carey & Sons
Germany, 32 L. & I. D. Jt. Co.
E. Indies, 7 Walker, Munsie & Co.
" 54 41 pks. 3 bxs. Wrightson & Son
" 77 Marine Insur. Co., Ld.
" 3 L. & I. D. Jt. Co.
" 33 Thomasset & Co.
" 1 Montgomery & Workman
" 32 pks. J. Owen
" 66 A. B. Curtis & Co.

Myrabolams

E. Indies, 600 bgs. J. Greig
Germany, 1,110 pks. Baxter & Hoare
E. Indies, 860 L. & I. D. Jt. Co.
" 444 600 bgs. Baxter & Hoare

Saffron

Spain, 1 cs. J. Mullet
" 1 pk. A. Owen
" 1 Pickford & Co.
" 1 cs. J. W. Cook & Co.
France, 2 B. & F. Wf. Co.

Shumac

Italy, 140 bls. Bailey & Leetham Ld.
" 1,000 bgs. J. Kitchin, Ld.
" 550 pks. A. Slater & Co.

Tanners' Bark

Belgium, 40 t. Lon. & Til. L. Co.
" 58 Leach & Co.
U. States, 21 W. & S. Bowditch

Turmeric

E. Indies, 83 pks. R. G. Hall & Co.
" 116 L. & I. D. Jt. Co.

Valonia

Turkey, 50 t. W. H. Mitchell
A. Turkey, 10 F. Claydon & Co.
" 25 Boutcher, Mortimore & Co.
E. Turkey, 100 "

Farina—

Holland, 50 bgs. J. Knill & Co.

Gamboge—

Straits, 28 cs. Rogers Brs.

Glucose—

Germany, 13 pks. 19 c. L. & I. D. Jt. Co.
New York, 250 1,375 Ohlenschlager Brs.
U. States, 200 2,200 R. G. Hall & Co.
France, 700 700 W. E. Cole
" 200 200 Robinson Son & Co.
" 200 200 L. Norman & Co.

Glue—

Holland, £11 Phillipps & Graves
Italy, 120 Greenburg & Sons
Austria, 275 Steinhoff, Sons & Co.
Germany, 225 L. & I. D. Jt. Co.
U. States, 30 Armour & Co.
France, 6 Mory & Co.
" 36 Burnett, Brs. & Co.
Belgium, 44 J. Barber & Co.
France, 339 Prop. Hay's Wf.
Germany, 30 Dunlop Brs. & Co.
" 150 J. Barber & Co.
Belgium, 100 T. H. Lee
France, 70 B. & F. Wf. Co.
Germany, 600 Deering & Robottom

Infusorial Earth—

Germany, £90 Butler's Wf., Ltd.
" 40 t. A. Haacke & Co.

Lamp Black—

U. States, 30 bds. J. Melvin
Sweden, 670 pks. M. D. Co
U. States, 400 brls. Binney & Smith

Lead Acetate—

Germany, 41 cks. F. Bochm

Litharge—

Germany, 4 cks. Butler's Wf., Ltd.

Manganese—

Germany, 1 t. Butler's Wf., Ltd.

Manganese Ore—

Germany, 12 t. E. Hof & Co.

Manure—

Germany, 102 t. L. & I. D. Jt. Co.
Belgium, 20 B. Jacob & Sons

Methyl Alcohol—

France, 40 cks. E. J. Catlin

Mica—

E. I'dies, £1,504 W. M. Smith & Sons
Madras, 1,120 "

Molasses—

U. States, 200 cks. 1,227 c. Seaward Brs.
" 200 1,121 R. G. Hall & Co.
" 50 273 Ohlenschlager Brs.
" 100 560 C. S. Anderson

Ochre—

Holland, 18 pks. Phillipps & Graves
France, 115 cks. W. Harrison & Co.

Oxalic Acid—

Holland, 10 cks. R. W. Greeff & Co.
Norway, 16 pks. S. C. D. Co.

Phosphate Rock—

Belgium, 245 t. Anglo-Contl. Guano Works
" 165 Lawes Chemical Manure Co.
France, 160 West & Penrose

Pitch—

N. Russia, 220 brls. Fellows, Morton, & Co.

Plumbago—

Ceylon, 111 cks. Marshall & French
U. States, 26 pks. Lunham & Moore
Germany, 62 cks. B. Gallaway

Potash—

Germany, 40 c. J. Barber & Co.

Potassium Carbonate—

Germany, 105 c. A. & M. Zimmermann
Belgium, 80 A. J. Luke & Co.

Potassium Chloride—

Germany, £275 Bessler, Waechter, & Co.
" 260 F. W. Berk & Co.

Potassium Oxalate—

Holland, 20 kgs. R. W. Greeff & Co.

Potassium Permanganate—

Holland, £50 R. W. Greeff & Co.

Potassium Sulphate—

E. Indies, 350 pks. G. H. Wilson & Sons
Germany, 254 Bessler, Waechter, & Co.

Pumice Stone—

Italy, 27 t. F. A. Hodgkinson & Co.
Messina, 5 J. Greig

Pyrites—

Spain, 7,500 t. Anderson, Anderson, & Co.
" 1,427 Naylor, Benzon, & Co.
Pomaron, 948 Mason & Barry, Ltd.

Quicksilver—

Spain, 5,000 flsks. N. M. Rothschild & Sons
" 98 btls. L. & I. D. Jt. Co.
Italy, 100 flsks. H. Bath & Son

Rosin—

France, 27 cks. Lucas & Spencer's Wf.

Rosin Oil—

France, 250 brls. C. Price & Co.

Salicylic Acid—

Holland, 8 pks. Little & Johnston
" 1 Butler's Wf., Ltd.

Saltpetre—

Germany, 12 brls. 1 ck. L. & I. D. Jt. Co.
Belgium, 170 bgs. J. Greig
Germany, 150 kgs. 12 P. Hecker & Co.
Calcutta, 1,916 bgs. Lucas & Spencer's Wf.

Soda—

Holland, 240 c. R. W. Greeff & Co.

Sodium Acetate—

France, 233 c. J. Harrison

Sodium Prussiate—

Belgium, £360 Blagden, Waugh, & Co

Sodium Sulphide—

Germany 30 cks. Deering & Robottom

Starch—

Belgium, 600 cs. F. Claydon & Co.
Germany, 2,310 Horne & Co.
" 400 J. R. Francis & Co.
Holland, 614 A. Starck
" 1,793 Little & Johnston
Belgium, 190 Sawer, Sons, & Co.
" 20 Leach & Co.
" 80 T. H. Lee
" 80 Taylor Brs.
Holland, 130 G. Rahn & Co.
" 129 Phillipps & Graves
France, 625 E. & T. Pink
U. States, 500 bgs. R. Warner & Co.
Belgium, 750 cs. E. & T. Pink
" 260 J. Harrison
France, 120 "
Germany, 56 cks. Butler's Wf., Ltd.
" 380 cs. R. G. Hall & Co.
U. States, 200 "
" 200 bgs. "

Stearine—

Holland, 93 cks. Palmer & Co.
France, 320 bgs. G. Boor & Co.

Sulphur—

Austria, 10 t. Taylor Brs.
Italy, 5 J. Kitchin, Ltd.
" 20 Perkins & Homer
" 80 Bailey & Leetham, Ltd.

Talc—

Austria, £8 Fuerst Brs.

Tar—

Germany, 100 brls. W. Beard & Son

Tartaric Acid—

Belgium, 3 pks. J. W. Cook & Co., Ld.

Ultramarine—

Holland, 2 cs. G. Rahn & Co.
" 7 2 pks. J. Barber & Co.
" 35 Thames S. T. & L. Co., Ld.
Belgium, 12 pks. W. Harrison & Co.
Holland 10 Hernu, Peron, & Co.

Varnish—

U. States, 15 pks. Williams, Torrey, & Co.
France, 27 R. G. Clark & Co.

Waste Salt—

Belgium, 50 t. J. G. Back

White Lead—

Holland, 23 cks. J. Owen
Belgium, 85 T. & W. Farmiloe, Ld.
Holland, 65 Wilkinson & Co.
Germany, 55 "
France, 28 J. Wate & Sons
Belgium, 19 brls. J. R. Francis & Co.
Germany, 20 pks. Perkins & Homer

Wood Pulp—

Norway, 100 pks W. D. Cork
" 80 Becker & Co
Sweden, 160 W. G. Taylor & Co.
" 272 C. S. Lovell
Holland, 52 "
Canada, 695 G. Becker & Co.
Holland, 426 J. Owen
Newf'l'd, 2,655 L. & I. D. Jt. Co.
Norway, 200 Johnsen & Jorgensen
Sweden, 337 M. D. Co.
Norway, 320 Christophersen, Andrews, & Co.
Holland, 130 W. H. Carey & Sons

Zinc Oxide—

Germany, 500 cks. Soundy & Sons
" 1 pk. Brit. Anti-Fouling Comp & Paint Co.
Holland, 38 brls. M. Ashby, Ltd.

Zinc Sulphide

Holland, 40 cks. A. Zumbeck & Co

LIVERPOOL.

Week ending February 3rd.

Acetate of Lime—

New York, 2,238 bgs.

Aluminium—

New York, 200 bxs. T. Ashbury

Antimony Ore—

Antofagasta, 280 bgs. A. Aramayo & Co.
" 125

Barytes—

Hamburg, 8 cks.

Bone Meal—

Bombay, 6,165 bgs.

Borate of Lime—

Antofagasta, 1 320 bgs.

Borates—

Galveston, 12,689 sks.

Cobalt Ore—

Rouen, 8 cs. R. J. Francis & Co.

Colours—

Antwerp, 3 cks.

Cream of Tartar—

Bordeaux, 30 cks.

Dyestuffs—

Cochineal

Gd. Canary, 38 bgs. Kennedy, Moon & Co.

Divi Divi

Havre, 90 bgs. Cunard S. S. Co., Ld.

Extracts

Hamburg, 10 brls.
New York, 15 A. Cowdy
" 150 10 kgs.

Myrabolams

Bombay, 2,682 bgs. W. & R. Graham & Co
" 2,437
Havre, 1 Cunard S. S. Co., Ld.

Shumac

Palermo, 100 bgs. J. Kitchin, Ld.
" 500

Valonia

Smyrna, 164 t. 15 c. Barry Brs.
" 1,937 bgs.

Gelatine—

Bordeaux, 10 bls.

Glucose—

New York, 187 bgs. T. M. Duche & Son
" 120 brls.
Baltimore, 300
Portland. Me., 350 "

Glue—

St. Nazaire, 28 pks.
Rotterdam, 2 bgs. 3 cs.
New York, 40

Lamp Black—

New York, 25 brls.

Limestone—

Antwerp, 2 crts. J. T. Fletcher & Co.

Manganese—

St. John, 10 brls.

Molasses—

Alexandria, 1,327 bxs.
N. Orleans, 2,000 brls.

Ochre—

Marseilles. 10 brls. Birmingham Color Co.

Paraffin Scale—

New York, 255 brls. Anglo-Am. Oil Co., Ld.
" 425 Thompson & Bedford
Baltimore, 100

Phosphate—

Ghent, 145 t.

Phosphate Rock—

Brunswick, Ga., 215 t.

Potash—

Rouen, 83 cks Co-op. W'sale Society, Ld.
Dunkirk, 20 dms. Bancroft & Co., Ld.
" 100

Pumice Stone—

Messina, 15 cs.

Pyrites—

Huelva, 4,811 t. Matheson & Co
Syra, 250

Rosin—

Savannah. Ga., 6,080 brls.

Saltpetre—

Punta Arenas, 13 bgs. Duncan, Fox & Co.

Soap—

Philadelphia, 1 cs.
Marseilles, 7 F. W. Nicholson
Boston, 20 Boots Pure Drug Co.
" 5 Evans, Sons & Co.
Marseilles, 23 1 ck.

Soapstone—

Bordeaux, 50 bgs. Geo. G. Blackwell, Sons & Co.

Sodium Nitrate—

Tocopilla, 11,077 bgs.
Iquique, 10,793 Graham, Rowe & Co.

Starch—

Philadelphia, 210 bxs. J. Howard & Sons
New York, 800 bgs.
" 490 T. M Duche & Sons
Antwerp, 180 cs. J. T. Fletcher & Co.

Stearine—

Rouen, 13 bgs. Co-op W'sale Society, Ld.
Antwerp, 38 bds.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are still very quiet and only a moderate business doing. Soda crystals £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77%, £9. per ton and 70%, £7. 10s. per ton. Sulphur steady at £4. 15s. to £5. per ton.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt is firm at 9s. to 9s. 6d. per ton, with good shipments.

COALS.—The market is quiet though there is a fair general demand. Gas and household coals are quiet. There is a better consumption for manufacturing coals, and coke is steady for local consumption and for export. Prices are:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; gas coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; small steam, 3s. 3d. to 3s. 6d per ton; coke, 17s. 6d. to 21s. per ton.

New Companies.

Rincon Silver-Lead Mine, Ltd.—CAPITAL £120,000. in £1. shares. This company has been formed to acquire the business of the Almodovar Silver-Lead Mining Co., Ltd. (registered in 1893), to adopt an agreement with the said company and Wm. M. Brown, and to acquire, own, and work any mines, lands, quarries, works, buildings, mining rights and privileges in Spain or elsewhere. The subscribers to the memorandum of association are:—A. Fellows, 33, Park-road, Jarrow-on-Tyne, manager; J. Hall, 9, Prior's Terrace, Tynemouth, shipowner; J. V. Gregory, Quayside, Newcastle-on-Tyne, coal fitter; E. J. Hall, Dilston Hall, Corbridge-on-Tyne, merchant; J. Robson, 2, Hartland Terrace, Newcastle-on-Tyne, manager; P. Schmitz, King-street, Newcastle-on-Tyne, merchant; J. Hall, 3, Ellison Place, Newcastle-on-Tyne, shipowner.

Spottina, Ltd.—CAPITAL £5,000. in £5. shares. This company has been formed to acquire and carry on the business of manufacturers of a preparation for removing stains and cleansing fabrics, known as "Spottina," carried on at Kingston Mills, 52 and 54, Granville-road, Kilburn, and to adopt a certain agreement. The first directors are R. N. Cunningham, T. W. Pegg, R. G. Sidford, A. C. Cunningham, and N. L. Stocken.

W. A. Bishop & Co., Ltd.—CAPITAL £20,000. in £10. shares (1,000 £5 per cent. cum. pref.). This company has been formed to acquire and carry on the business of manufacturers of borax, boracic acid, sulphate of soda, carbonate of lime, and other chemicals, carried on as "W. A. Bishop & Co.," at Warrington, Lancs., and at 13, Idol Lane, E.C., and to enter into a certain agreement. The subscribers to the memorandum of association are:—W. A. Bishop, 13, Idol Lane, E.C., merchant; T. N. Tyndale, 13, Idol Lane, E.C., merchant; A. Pearce, 8a, New Inn, Strand, W.C., solicitor; E. L. Fleming, Woodfield, Weaverham, Cheshire, manufacturer; Mrs. M. M. Fleming, Woodfield, Weaverham, Cheshire; E. W. Woods, 55, Horsemarket-street, Warrington, solicitor; Mrs. A. M. Woods, Walton House, near Warrington.

Tarakan Petroleum Oil Syndicate, Ltd.—CAPITAL £20,000. in £100. shares. This business has been formed to carry on all kinds of exploration business, in particular to search for mineral oils. The subscribers to the memorandum of association are:—L. Doran, 12, Windsor Terrace, Glasgow, accountant; W. Lunan, 6, Belgrave Terrace, Glasgow, accountant; J. Braidwood, 296, Renfrew-street, Glasgow, accountant; H. M'Couville, 27, Newton Place, Glasgow, accountant; C. Barr, 14, Knowe Terrace, Pollockshields, accountant; J. Sutherland, 9, Herriet St., Pollockshields, accountant; A. Brown, Milverton, Lenzie, accountant. Registered office: 45, Benfield-street, Glasgow.

Vulcan Fuel Syndicate, Ltd.—CAPITAL £10,000. in £1. shares. This company has been formed to deal with, manufacture, and render saleable, as fuel, etc., peat, or any fibrous or other substance, coal dust or refuse, coke, etc. The subscribers to the memorandnm of association are:—C. Cummins, 1, Foster Place, Dublin, accountant; J. Chambré, Commercial Buildings, Dublin, merchant; F. Cooke, Commercial Buildings, Dublin, bookkeeper; W. Chambré, Commercial Buildings, Dublin, merchant; E. Chambré Hardman, 14, Molesworth-street, Dublin, land agent; T. B. Hardman, 14, Molesworth-street, Dublin, solicitor; W. B. Hardman, 14, Molesworth-street, Dublin, solicitor.

Gazette Notices.

PARTNERSHIP DISSOLVED.

M. HALE and G. THOMPSON, chemical manure manufacturers, Mark-lane, E.C., and Abbey-lane, West Ham, E., under the style of W. H. Hale and Thompson.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

F. B. DENTON, Bradford, late salt dealer.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 5th.

Acetic Acid—

Holland,	50 pks.	Phillipps & Graves
,,	10	F. Stahlschmidt & Co.

Alkali—

France,	50 c.	J. Barber & Co.

Alum—

Holland,	130 cks.	Ohlenschlager Brs.

Asbestos—

Italy,	£490	British Asbestos Co.
,,	140	Bender & Martiny
Canada,	700	Deering & Robottom
U. States,	549	W. Byford
Italy,	58	London Asbestos Co.
Germany,	68	Craven & Co.

Barytes—

Belgium,	35 cks.	W. Harrison & Co.
Germany,	22	Phillipps & Graves
Holland,	102	J. L. Lyon & Co.
Germany,	57	W. Harrison & Co.
Holland,	46	,,
,,	4	200 bgs. Harrison & Co.

Bone Meal—

E. Indies,	300 t.	Fox, Roy & Co.
,,	200	N. Waterhouse & Sons
,,	350	A. Hunter & Co.
,,	150	Union Ltge. Co.
Germany,	100	A. Hunter & Co.

Bromide of Iron—

Germany,	£825	A. & M. Zimmermann

Camphor—

Japan,	67 pks.	City Coml. Wf., Ltd.

Caoutchouc—

France,	1 c.	Lewis & Peat
Singapore,	136	L. & I. D. Jt. Co.
,,	51	Huttenbach & Co.
Germany,	30	Butler's Wf., Ld.
France,	200	W. Balchin, Ld.
Melbourne,	150	D. Baird & Co.
Germany,	7	F. Huth & Co.
Zanzibar,	9	S. Figgis & Co.
,,	31	L. & I. D. Jt. Co.
Madagascar,	14	,,
U. States,	1	,,
Straits,	101	Butler's Wf., Ld.
,,	67	Prop. Bull Wf.
France,	18	Hale & Son

Castor Oil—

E. Indies,	50 cs.	R. G. Hall & Co.
Italy,	10	Hodgkinson, Clarke & Co.
Belgium,	41 brls.	R. G. Hall & Co.
Italy,	5	A. Lanning & Co.
E. Indies,	100 cs.	Anderson, Weber & Smith

Caustic Potash—

France,	£10	J. A. Reid
Germany,	85	J. M. Steel & Co.

Chemicals (*otherwise undescribed*)

Holland,	£18	T. H. Lee
,,	30	G. Rahn & Co.
France,	70	Hernu, Peron & Co.
Germany,	12	Butler's Wf., Ld.
,,	68	Phillipps & Graves
,,	60	L. & I. D. Jt. Co.
Belgium,	186	T. Palmer
Germany,	£00	A. & M. Zimmermann
Belgium,	31	John Cockerill Line
,,	178	T. H. Lee
Germany,	5	J. Barber & Co.
Sweden,	20	M. D. Co.
Belgium,	82	Gas Light & Coke Co.
Sweden,	16	G. Boor & Co.
Germany,	60	Craven & Co

Citrate of Lime—

Italy,	45 cks.	Thames S. T. & L. Co., Ld.
,,	22 pks.	B. Jacob & Sons

Cream of Tartar—

Spain,	5 pks. 2 cks.	B. & F. Wf. Co.
Italy,	31	B. Jacob & Sons
France,	10	B. & F. Wf. Co.
,,	10	C. F. Gerhardt
,,	4	L. & N. W. Rly. Co.
,,	5	M. Ashby, Ld.
E. Indies,	12	Fellows, Morton & Co.

Creosote—

Germany,	30 cks.	J. M. Steel & Co.

Dyestuffs—

Alizarine

Holland,	23 brls.	G. Rahn & Co.

Aniline

Belgium,	33 pks.	W. Gerson & Co.
Germany,	10	Butler's Wf., Ld.

Annatto

E. Indies,	6 pks.	L. & I. D. Jt. Co.

Argols

Italy,	30 pks. 84 cks.	Thames S. T. & L. Co.
,,	307	B. Jacob & Sons

Cochineal

Canaries,	6 pks.	Knowles & Foster
,,	4 bgs.	Hendry & Martin

Cutch

Straits,	660 pks.	J. Swire & Sons
Rangoon,	100	L. & I. D. Jt. Co.
Straits,	100	Hoare, Wilson & Co.

Extracts

Austria,	125 brls.	Bailey & Leetham, Ld.
,,	125 27 t.	Boutcher, Mortimore & Co.
France,	1 ck.	Prop. Hay's Wf.
,,	19 cs.	Union Ltge. Co.
,,	50 pks.	Bennett S. S. Co.
,,	3	T. H. Lee
,,	150	L. J. Levinstein & Sons
Denmark,	2	M. D. Co.
France,	33 40 cks.	B. & F. Wf. Co.

Germany, 30 t. Darling Bro.

Gambier

Belgium, 502 pks. Hoare, Wilson & Co.
Straits, 557 Beresford & Co.
" 926 Brinkmann & Co.
" 52 J. Swire & Sons
" 996 Hoare, Wilson & Co.
" 2,453 Adamson, Gillillan & Co.

Indigo

E. Indies, 5 chts. F. Huth & Co.
" 15 Arbuthnot, Latham & Co.
" 19 T. Barlow & Bro
Holland, 3 cks. G. Rahn & Co.
E. Indies, 13 chts. H. Johnson & Sons
" 36 Binny & Co.
Belgium, 2 pks. John Cockerill Line
E. Indies, 10 chts. Carey & Sons
Germany, 32 L. & I. D. Jt. Co.
E. Indies, 7 Walker, Munsie & Co.
" 54 41 pks. 3 bxs Wrightson & Son
" 77 Marine Insur. Co., Ltd.
" 3 L. & I. D. Jt. Co.
" 33 Thomasset & Co.
" 1 Montgomery & Workman
" 32 pks J. Owen
" 66 A. B. Curtis & Co.

Myrabolams

E. Indies, 600 bgs. J. Greig
Germany, 1,110 pks. Baxter & Hoare
E. Indies, 860 L. & I. D. Jt. Co.
" 444 600 bgs. Baxter & Hoare

Saffron

Spain, 1 cs. J. Mullet
" 1 pk. A. Owen
" 1 Pickford & Co.
" 1 cs. J. W. Cook & Co.
France, 2 B. & F. Wf. Co.

Shumac

Italy, 140 bls. Bailey & Leetham Ld.
" 1,000 bgs. J. Kitchin, Ld.
" 550 pks. A. Slator & Co.

Tanners' Bark

Belgium, 40 t. Lon. & Til. L. Co
" 58 Leach & Co.
U. States, 21 W. & S. Bowditch

Turmeric

E. Indies, 83 pks. R. G. Hall & Co.
" 116 L. & I. D. Jt. Co

Valonia

Turkey, 50 t. W. H. Mitchell
A. Turkey, 10 F. Claydon & Co.
" 25 Boutcher, Mortimore & Co.
E. Turkey, 100 "

Farina—

Holland, 50 bgs. J. Knill & Co.

Gamboge—

Straits, 28 cs. Rogers Brs.

Glucose—

Germany, 13 pks. 19 c. L. & I. D. Jt. Co.
New York, 250 1,375 Ohlenschlager Brs.
U. States, 200 2,200 R. G. Hall & Co.
France, 700 700 W. E. Cole
" 200 200 Robinson Son & Co.
" 200 200 L. Norman & Co.

Glue—

Holland, £11 Phillipps & Graves
Italy, 120 Greenburg & Sons
Austria, 275 Steinhoff, Sons & Co.
Germany, 225 L. & I. D. Jt. Co.
U. States, 30 Armour & Co.
France, 6 Mory & Co.
" 36 Burnett, Brs. & Co.
Belgium, 44 J. Barber & Co.
France, 339 Prop. Hay's Wf.
Germany, 30 Dunlop Brs. & Co.
" 150 J. Barber & Co.
Belgium, 100 T. H. Lee
France, 70 B. & F. Wf. Co.
Germany, 600 Deering & Robottom

Infusorial Earth—

Germany, £90 Butler's Wf., Ltd.
" 40 t. A. Haacke & Co.

Lamp Black—

U. States, 50 bds. J. Melvin
Sweden, 670 pks. M. D. Co.
U. States, 400 brls. Binney & Smith

Lead Acetate—

Germany, 41 cks. F. Bochm

Litharge—

Germany, 3 cks. Butler's Wf., Ltd.

Manganese—

Germany, 1 t. Butler's Wf., Ltd.

Manganese Ore—

Germany 12 t. E. Hof & Co.

Manure—

Germany, 102 t. L. & I. D. Jt. Co.
Belgium, 20 B. Jacob & Sons

Methyl Alcohol—

France, 40 cks. E. J. Catlin

Mica—

E. I'dies, £1,504 W. M. Smith & Sons
Madras, 1,120 "

Molasses—

U. States, 200 cks. 1,227 c. Seaward Brs.
" 200 1,121 R. G. Hall & Co.
" 50 273 Ohlenschlager Brs.
" 100 560 C. S. Anderson

Ochre—

Holland, 18 pks. Phillipps & Graves
France, 115 cks. W. Harrison & Co.

Oxalic Acid—

Holland, 10 cks. R. W. Greeff & Co.
Norway, 16 pks. S. C. D. Co.

Phosphate Rock—

Belgium, 245 t. Anglo-Contl. Guano Works
" 165 Lawes Chemical Manure Co.
France, 160 West & Penrose

Pitch—

N. Russia, 220 brls. Fellows, Morton, & Co.

Plumbago—

Ceylon, 111 cks. Marshall & French
U. States, 26 pks. Lunham & Moore
Germany, 62 cks. B. Gallaway

Potash—

Germany, 40 c. J. Barber & Co.

Potassium Carbonate—

Germany, 105 c. A. & M. Zimmermann
Belgium, 80 A. J. Luke & Co.

Potassium Chloride—

Germany, £275 Bessler, Waechter, & Co.
" 160 F. W. Berk & Co

Potassium Oxalate—

Holland, 20 kgs. R. W. Greeff & Co

Potassium Permanganate—

Holland, £50 R. W. Greeff & Co.

Potassium Sulphate—

E. Indies, 350 pks. G. H. Wilson & Sons
Germany, 254 Bessler, Waechter, & Co.

Pumice Stone—

Italy, 27 t. F. A. Hodgkinson & Co.
Messina, 5 J. Greig

Pyrites—

Spain, 1,500 t. Anderson, Anderson, & Co.
" 1,427 Naylor, Benzon, & Co.
Pomaron, 948 Mason & Barry, Ltd

Quicksilver—

Spain, 5,000 flsks. N. M. Rothschild & Sons
" 98 bls. L. & I. D. Jt. Co.
Italy, 100 flsks. H. Bath & Son

Rosin—

France, 27 cks. Lucas & Spencer's Wf.

Rosin Oil—

France, 250 brls. C. Price & Co.

Salicylic Acid—

Holland, 8 pks. Little & Johnston
" 1 Butler's Wf., Ltd.

Saltpetre—

Germany, 12 brls. 1 ck. L. & I. D. Jt. Co.
Belgium, 170 bgs. J. Greig
Germany, 150 kgs. 12 P. Hecker & Co.
Calcutta, 1,916 bgs. Lucas & Spencer's Wf.

Soda—

Holland, 240 c. R. W. Greeff & Co.

Sodium Acetate—

France, 233 c. J. Harrison

Sodium Prussiate—

Belgium, £360 Blagden, Waugh, & Co.

Sodium Sulphide—

Germany 30 cks. Deering & Robottom

Starch—

Belgium, 600 cs. F. Claydon & Co.
Germany, 2,310 Horne & Co.
" 400 J. R. Francis & Co.
Holland, 614 A. Starck
" 1,793 Little & Johnston
Belgium, 190 Sawer, Sons, & Co.
" 20 Leach & Co.
" 80 T. H. Lee
" 80 Taylor Brs.
Holland, 130 G. Rahn & Co.
" 129 Phillipps & Graves
France, 625 E. & T. Pink
U. States, 500 bgs. R. Warner & Co.
Belgium, 750 cs. E. & T. Pink
" 260 J. Harrison
France, 120 "
Germany, 56 cks. Butler's Wf., Ltd.
" 380 cs. R. G. Hall & Co.
U. States, 200 "
" 200 bgs. "

Stearine—

Holland, 93 cks. Palmer & Co.
France, 320 bgs. G. Boor & Co.

Sulphur—

Austria, 10 t. Taylor Brs.
Italy, 5 J. Kitchin, Ltd.
" 20 Perkins & Homer
" 80 Bailey & Leetham, Ltd.

Talc—

Austria, £8 Fuerst Brs.

Tar—

Germany, 100 brls. W. Beard & Son

Tartaric Acid—

Belgium, 3 pks. J. W. Cook & Co., Ld.

Ultramarine—

Holland, 2 cs. G. Rahn & Co.
" 7 2 pks. J. Barber & Co.
" 35 Thames S. T. & L. Co., Ld.
Belgium, 12 pks. W. Harrison & Co.
Holland 10 Hernu, Peron, & Co.

Varnish—

U. States, 15 pks. Williams, Torrey, & Co.
France, 27 R. G. Clark & Co.

Waste Salt—

Belgium, 50 t. J. G. Back

White Lead—

Holland, 23 cks. J. Owen
Belgium, 85 T. & W. Farmiloe, Ld.
Holland, 65 Wilkinson & Co.
Germany, 55 "
France, 28 J. Wate & Sons
Belgium, 19 brls. J. R. Francis & Co.
Germany, 20 pks. Perkins & Homer

Wood Pulp—

Norway, 100 pks W. D. Cork
" 80 Becker & Co
Sweden, 160 W. G. Taylor & Co.
" 272 C. S. Lovell
Holland, 52 "
Canada, 695 G. Becker & Co.
Holland, 426 J. Owen
Newf'l'd, 2,655 L. & I. D. Jt. Co.
Norway, 200 Johnsen & Jorgensen
Sweden, 337 M. D. Co.
Norway, 320 Christophersen, Andrews, & Co.
Holland, 130 W. H. Carey & Sons

Zinc Oxide—

Germany, 500 cks. Soundy & Sons
" 1 pk. Brit. Anti-Fouling Comp & Paint Co.
Holland, 38 brls. M. Ashby, Ltd.

Zinc Sulphide -

Holland, 40 cks. A. Zumbeck & Co

LIVERPOOL.

Week ending February 3rd.

Acetate of Lime—

New York, 2,238 bgs.

Aluminium—

New York, 200 bxs. T. Ashbury

Antimony Ore—

Antofagasta, 280 bgs. A. Aramayo & Co.
" 125

Barytes—

Hamburg, 8 cks.

Bone Meal—

Bombay, 6,165 bgs.

Borate of Lime—

Antofagasta, 1,370 bgs.

Borates—

Galveston, 12,689 sks.

Cobalt Ore—

Rouen, 8 cs. R. J. Francis & Co.

Colours—

Antwerp, 3 cks.

Cream of Tartar—

Bordeaux, 30 cks.

Dyestuffs—

Cochineal

Gd. Canary, 38 bgs. Kennedy, Moon & Co.

Divi Divi

Havre, 90 bgs. Cunard S. S. Co., Ld.

Extracts

Hamburg, 10 brls.
New York, 15 A. Cowdy
" 150 10 kgs.

Myrabolams

Bombay, 2,682 bgs. W. & R. Graham & Co
" 2,439
Havre, 1 Cunard S. S. Co., Ld.

Shumac

Palermo, 100 bgs. J. Kitchin, Ld.
" 500

Valonia

Smyrna, 164 t. 15 c. Barry Brs.
" 1,937 bgs.

Gelatine—

Bordeaux, 10 bls.

Glucose—

New York, 187 bgs. T. M. Duche & Son
" 120 brls.
Baltimore, 300
Portland, Me., 350 "

Glue—

St. Nazaire, 28 pks.
Rotterdam, 2 bgs. 3 cs.
New York, 40

Lamp Black—

New York, 25 brls.

Limestone—

Antwerp, 2 crts. J. T. Fletcher & Co.

Manganese—

St. John, 10 brls.

Molasses—

Alexandria, 1,327 bxs.
N. Orleans, 2,000 brls.

Ochre—

Marseilles. 10 brls. Birmingham Color Co.

Paraffin Scale—

New York, 255 brls. Anglo-Am. Oil Co., Ld.
" 425 Thompson & Bedford
Baltimore, 100

Phosphate—

Ghent, 145 t.

Phosphate Rock—

Brunswick, Ga., 215 t.

Potash—

Rouen, 83 cks Co-op. W'sale Society, Ld.
Dunkirk, 20 dms. Bancroft & Co., Ld.
" 100

Pumice Stone—

Messina, 15 cs.

Pyrites—

Huelva, 4,811 t. Matheson & Co
Syra, 250

Rosin—

Savannah, Ga., 6,080 brls.

Saltpetre—

Punta Arenas, 13 bgs. Duncan, Fox & Co.

Soap—

Philadelphia, 1 cs.
Marseilles, 7 F. W. Nicholson
Boston, 20 Boots Pure Drug Co.
" 5 Evans, Sons & Co.
Marseilles, 23 1 ck.

Soapstone—

Bordeaux, 50 bgs. Geo. G. Blackwell, Sons & Co.

Sodium Nitrate—

Tocopilla, 11,077 bgs.
Iquique, 10,793 Graham, Rowe & Co.

Starch—

Philadelphia, 210 bxs. J. Howard & Sons
New York, 800 bgs.
" 490 T. M. Duche & Sons
Antwerp, 180 cs. J. T. Fletcher & Co.

Stearine—

Rouen, 13 bgs. Co-op. W'sale Society, Ld.
Antwerp, 38 bds.

Sulphur—
Catania, 500 bgs.
Tallow—
Philadelphia, 150 tcs.
Campana, 260 cks.
B. Ayres, 346 hf.-pps.
Boston, 67 brls. 1 bx. 200 tcs.
New York, 100 hds. 97
Punta Arenas, 432 Cuthbert & Hall
Tartaric Acid—
Rotterdam, 3 cks.
Messina, 4
Treacle—
Philadelphia, 100 brls.
St. Nazaire, 1 cs.
New York, 300
Varnish—
New York, 6 brls. W. A. Warren
Waste Salt—
Hamburg, 25 brls.
White Lead—
Rotterdam, 21 cks.
Wood Pulp—
Rotterdam, 122 bls.
Portland, M., 867 bdls. C. F. Callerton & Co.
Helgenas, 2,712 bls. H. Tyrer & Co.
Zinc Skimmings—
New York, 40 cks. 8 brls.
Zinc White—
Rotterdam, 25 cks.

MANCHESTER.

Week ending February 5th.

Acetate of Lime—
New York, 426 bgs.
Rouen, 154
Aniline Colours—
Rouen, 2 cks.
Annatto—
Bordeaux, 2 cs. J. & P. Hutchison
Antimony Salts—
Rotterdam, 10 cks. Wilson, Son, & Co.
Asbestos—
Genoa, 5 cs. 35 pks.
Barytes—
Rotterdam, 22 cks. Wilson, Son, & Co.
Chemicals *(otherwise undescribed)*
Rotterdam, 8 cks. Wilson, Son, & Co.
Colours—
Rouen, 3 cks.
Antwerp, 9
Rotterdam, 37 11 cs. 133 pks. Wilson, Son, & Co.
Cream of Tartar—
Rotterdam, 4 cks. Wilson, Son, & Co.
Farina—
Rotterdam, 3,200 bgs. Wilson, Son, & Co.
Stettin, 500 Browne, Geveke, & Co.
" 1,140
Glucose—
New York, 299 brls.
Stettin, 200 bgs.
Glue—
Genoa, 16 cks.
Rouen, 16 13 cs. 10 bls.
Fiume, 4 100 bgs.
Antwerp, 3 pks J. T. Fletcher & Co.
" 30 bls.
Rotterdam, 5 cks. 3 cs. 171 bgs. Wilson, Son, & Co.
Limestone—
Antwerp, 1 cs.
Litharge—
Rotterdam, 15 cks. Wilson, Son, & Co.
Mineral White—
Bordeaux, 200 bgs. G. G. Blackwell, Sons, & Co.
" 100 J. & P. Hutchison
Paraffin Scale—
New York, 861 brls.
Pitch—
Antwerp, 18 cks.
Plumbago—
Genoa, 25 cks. 20 bgs.
Potash—
Antwerp, 3 cks.
Potash Salts—
Antwerp, 8 cks.
Pumice Stone—
Leghorn, 6 brls. 10 bgs.
Antwerp, 1 cs.
Sodium Nitrate—
Rotterdam, 4 cks. Wilson, Son, & Co.
Starch—
New York, 1,598 bgs.
Antwerp, 178 cs. J. T. Fletcher & Co.
" 90
Rotterdam, 154 Wilson, Son, & Co.
Stearine—
Antwerp, 6 bgs.
Sulphuric Acid—
Rotterdam, 10 cks. Wilson, Son, & Co.
Tartaric Acid—
Rotterdam, 8 cks. Wilson, Son, & Co.
White Lead—
Rotterdam, 12 cks. Wilson, Son, & Co.
Wood Pulp—
Fiume, 400 pks.
Rotterdam, 98 rolls Wilson, Son, & Co.
23 bls.
Drammen, 878 t. Wertheim & Co.
Zinc Ashes—
Antwerp, 15 cks.
Stettin, 15
Zinc Oxide—
Antwerp, 60 brls.
Zinc White—
Rotterdam, 25 cks. Wilson, Son, & Co.

HULL.

Week ending February 5th.

Acetic Acid—
Rotterdam, 11 blns. W. & C. L. Ringrose
Aluminium—
New York, 3 cs. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 90 cks. Bailey & Leetham, Ld.
Hamburg, 20 Wilson, Sons, & Co., Ld.
Chemicals *(otherwise undescribed)*
Bremen, 1 cs. Veltmann & Co.
Christiania, 8 cks. Wilson, Sons, & Co., Ld.
Dunkirk, 9 "
Antwerp, 85 pks. "
Colours—
Bremen, 211 pks.
Rotterdam, 6 Hutchinson & Son
1 brl.
Antwerp, 10 cks. Bailey & Leetham, Ld.
" 51 pks. Wilson, Sons, & Co., Ld.
Hamburg, 11 cks. "
Rotterdam, 40 W. & C. L. Ringrose
69 pks.
" 16 cks. Wilson, Sons, & Co., Ld.
1 cs.
Cryolite—
Copenhagen, 2 cks. Wilson, Sons, & Co., Ld.
Dextrine—
Stettin, 250 bgs. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 2 cks. W. & C. L. Ringrose
Shumac
Trieste, 201 bgs. Wilson, Sons, & Co., Ld.
Palermo, 779
Shumac Extract
Trieste, 10 brls. Wilson, Sons, & Co., Ld.
Valonia
Trieste, 114 bgs. Wilson, Sons, & Co., Ld.
Farina—
Harlingen, 300 bgs. Hutchinson & Son
Stettin, 575 Wilson, Sons, & Co., Ld.
Glucose—
New York, 602 brls.
Glue—
Hamburg, 50 bgs. Wilson, Sons, & Co., Ld.
Fiume, 60 "
Dunkirk, 103 cks. "
Kaolin—
Amsterdam, 20 cks. Hutchinson & Son
Rotterdam, 232 bgs. "
Lead Acetate—
Stettin, 14 cks. Wilson, Sons, & Co., Ld.
Hamburg, 9 "
Limestone—
Antwerp, 1 crt. Wilson, Sons, & Co., Ld.
Manganese Oxide—
Rotterdam, 8 cks. W. & C. L. Ringrose
Potash—
Rotterdam, 2 cks. Hutchinson & Son
Pumice Stone—
Messina, 106 pks. 15 cs. Wilson, 30 bgs. Sons, & Co., Ld.
Pyrites—
Huelva, 1,008 t.
Soap—
Bari, 52 cs. Wilson, Sons, & Co., Ld.
Molfetta, 300 bgs. "
New York, 50 bxs. "
Soda—
Ghent, 301 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 100 "
Starch—
Bremen, 1,249 cs. Veltmann & Co.
Ghent, 223 Wilson, Sons, & Co., Ld.
Tallow—
Dunkirk, 128 cks. Wilson, Sons, & Co., Ld.
Tartar—
Bordeaux, 7 cks. Rawson & Robinson
Tartaric Acid—
Rotterdam, 8 cks. W. & C. L. Ringrose
Bari, 108 Wilson, Sons, & Co., Ld.
Rotterdam, 10 Hutchinson & Son
Treacle—
New York, 825 brls. Wilson, Sons, & Co., Ld.
Ultramarine—
Rotterdam, 5 cks. W. & C. L. Ringrose
White Lead—
Antwerp, 37 cks. Bailey & Leetham, Ld.
Amsterdam, 44 Hutchinson & Son
Rotterdam, 70 "
Wood Pulp—
Gothenburg, 391 bdls. Wilson, 84 pks. Sons, & Co., Ld.
Rotterdam, 100 W. & C. L. Ringrose
Christiania, 1,420 bls. Wilson, 25 cs. Sons, & Co., Ld.
New York, 85 bdls. "
Hango, 62 bls.
Zinc Oxide—
Antwerp, 25 cks. Bailey & Leetham, Ld.
Rotterdam, 20 Hutchinson & Son

GLASGOW.

Week ending February 10th.

Alumina Sulphate—
Antwerp, 130 cks.
Arachide Oil—
Rotterdam, 23 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 470 bgs.
Barytes—
Rotterdam, 136 cks. J. Rankine & Son
Castor Oil—
Antwerp, 20 cks.
Chemicals *(otherwise undescribed)*
Christiania, 182 bls.
Gothenburg, 6 cks. 30 kgs.
Rotterdam, 5 J. Rankine & Son
Colours—
Hamburg, 11 cks. 10 cs.
Rotterdam, 10 pks. J. Rankine & Son
Dyestuffs—
Alizarine
Rotterdam, 157 brls. J. Rankine & Son
Aniline
Rotterdam, 3 cks. J. Rankine & Son
11 brls. 1 cs. 9 bxs.
Hamburg, 2 2 cks.
Aniline Salts
Rotterdam, 5 cks. J. Rankine & Son
Cutch
Rangoon, 185 bxs.
Farina—
Delfszyhl, 500 bgs. J. Rankine & Son
Glue—
Hamburg, 10 cks. 41 bgs.
Lamp Black—
Gothenburg, 20 cs.
Lead Acetate—
Hamburg, 20 cks.
Paraffin Scale—
Rangoon, 162 bxs. P. Henderson & Co.
Paraffin Wax—
Baltimore, 300 brls.
Phosphate of Lime and Rock—
Antwerp, 462 bgs.
Phosphorus—
Baltimore, 5 cs.
Potash—
Rotterdam, 84 cks. J. Rankine & Son
Hamburg, 24
Saltpetre—
Rotterdam, 59 cks. J. Rankine & Son
Starch—
Rotterdam, 100 cs. J. Rankine & Son
Varnish—
Antwerp, 1 ck. 1 cs.
Waste Salt—
Hamburg, 500 bgs.
White Lead—
Rotterdam, 99 cks. J. Rankine & Son
2 cs. 9 pks.
Wood Pulp—
Gothenburg, 136 bls.
Christiania, 40 5 cs. 60 pks.
Drammen, 619 t. Clyde Paper Co.
Zinc Ashes—
Antwerp, 3 cks.

TYNE.

Week ending February 5th.

Barytes—
Rotterdam, 100 bgs. Tyne
11 cks. S. S. Co.
Colours—
Rotterdam. 2 cks. Tyne S. S. Co.
Phosphate—
Bona, 1,680 t. Langdale's Chemical M. Co.
Rosin—
Carrabelle, Florida, 3,407 brls.
Starch—
Antwerp, 160 cs. Tyne S. S. Co.
Rotterdam, 85 "
Wood Pulp—
Christiania, 104 bls.

GOOLE.

Week ending February 2nd.

Alizarine—
Rotterdam, 177 cks.
Alkali—
Calais, 6 cks.
Barytes—
Rotterdam, 12 cks.
Antwerp, 100 bgs.
Colours—
Hamburg, 23 cks. 35 cs.
Dyestuffs *(otherwise undescribed)*
Boulogne, 57 cks. 2 cs. 44 pks.
Rotterdam, 438 70 2 tins
Glue—
Boulogne, 2 cs.
Hamburg, 20 bgs.

Logwood—
Laguna De Terminos, 400 t.
Ochre—
Calais, 37 cks.
Dunkirk, 96
Phosphate—
Antwerp, 3 cks.
Dunkirk, 800 bgs.
Plumbago—
Boulogne, 2 cs.
Potash—
Calais, 26 dms.
Dunkirk, 19 cks. 47

Pyrites—
Huelva, 750 t.
Saltpetre—
Antwerp, 85 bgs.
Hamburg, 5 cks.
Rotterdam, 170 bgs.
Soap—
Rotterdam, 2 cs.
Starch—
Ghent, 32 cs.
Tartaric Acid—
Rotterdam, 2 cks

Ultramarine—
Ghent, 4 cs.
Wood Pulp—
Rotterdam, 51 bls.

GRIMSBY.

Week ending February 5th.

Barytes—
Rotterdam. 10 cks.
Caoutchouc—
Antwerp, 6 cs.

Hamburg, 15
Rotterdam, 1 pk.
Chemicals *(otherwise undescribed)*
Hamburg, 6 cs.
Rotterdam, 22 cks.
Colours—
Antwerp, 2 cks. 74 pks.
Hamburg, 47 4
Rotterdam, 12
Dyestuffs *(otherwise undescribed)*
Dieppe, 5 cks.
Soap—
Antwerp, 2 cs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 9th.

Alkali—
Timaru, 7 c. £12
Alum Waste—
Calcutta, 1,250 slabs £101
Ammonia (Liquid)—
Bombay, 2 cs. £15
Ammonium Carbonate—
Rotterdam, 1 t. £30
Bordeaux, 10 cks. 27
Ammonium Chloride—
Fremantle, 2 cks. £11
Rio de Janeiro, 1 t. 19 c. 61
Genoa, 1 17
Ammonium Nitrate—
New York, 5 cks. £22
Ammonium Sulphate—
Ostend, 551 t. 7 c. £3,510
Bremen, 244 2,415
Barbadoes, 200 1,500
Rotterdam, 123 8 1,260
Bombay, 19 15
Hamburg, 250 2,495
Martinique, 75 705
Grenada, 15 9
Ghent, 80 750
Antwerp, 25 6 253
Antimony Sulphide—
Hamburg, 11 c. £50
Bleaching Powder—
Durban, 3 t. £32
Sydney, 1 7 c 10
Borax—
Adelaide, 1 t. £14
Brussels, 1 2 c. 44
Sydney, 1 10 22
Bromide of Cyanogen—
Singapore, 1 c. £17
Carbolic Acid—
Santos, 2 cs. £5
Colombo, 6 cks. 24
Antwerp, 25 116
Brisbane, 40 dms. 10
Bombay, 400 158
Hiogo, 100 320
Paris, 40 cans 61
Caustic Soda—
Durban, 2 t. 3 c. £21
Auckland, 5 2 57
Philadelphia, 83 14 520
Pt. Elizabeth, 1 5 28
Napier, 8 20
Aden, 4 5
Chemicals *(otherwise undescribed)*
Amsterdam, 6 kgs. £31
Boston, 11 c. 35
Montreal, 5 16
B. Ayres, 1 cs. 16
Calcutta, 20 50
Brisbane, 87 pks. 31
Bombay, 30 60
Antwerp, 12 cks. 200
Dunkirk, 41 650
Sydney, 14 7 cs. 34
Marseilles, 2 10
Paris, 12 pks. 35
Sourabaya, 9 70
Cape Town, 14 25
Hamburg, 14 kgs. 2 115
Brussels, 5 5 cs. 104
Auckland, 4 63 pks. 183
Adelaide, 180 144
Perth, 92 38
Wellington, 56 53
Melbourne, 67 167

Citric Acid—
Rotterdam, 1 t. 1 c 10 cks. £183
Durban, 2 12
Delagoa Bay, 1 8
B. Ayres, 5 28
Montreal, 15 83
Reval, 3 15 420
Boston, 10 kgs. 59
Colombo, 3 20
Amsterdam, 1 5 148
Bombay, 1 2 130
Cape Town, 2 11
Lisbon, 10 5 cks. 77
Toronto, 11 57
Coal Products—
Alizarine
Reval 14 cs. £740
Aniline
Cape Town, 1 cs. £6
Aniline Oil
New York, 11 dms. £380
Anthracene
Dusseldorf, 51 cks. £280
Rotterdam, 65 452
Benzine
Perth, 6 cs. £10
Benzol
Boulogne 98 brls. £270
Creosote
Huelva, 4,078 brls. £2,200
Alexandria, 257 218
New York, 100 cks. 340
Creosote Oil
New York, 500 cks. £289
Trinidad, 137 100
Naphtnaline
Rotterdam, 10 cs. £10
Pitch
Hong Kong, 2,042 cks. £620
Antwerp, 250 t. 238
Hamburg, 3 9
Cette. 1,700
New York, 103 65
Alexandria, 400 brls. 145
Tar
Durban, 50 dms. £8
Stettin, 400 brls. 180
Tar Oil
Marseilles. 10 cks. £15
Tar Salts
New York, 33 cks. £400
Toluol
Rotterdam, 47 cks. £230
Coal Products *(otherwise undes.)—*
Boston, 2 cks. £18
Copper Sulphate—
E London, 9 c. £7
Treport, 15 t. 251
Marseilles, 5 84
Gibraltar, 1 3 18
Rouen, 85 1,330
Timaru, 2 32
Odessa, 10 3 153
Paris, 20 330
Batoum, 15 249
Copperas—
Cologne, 8 c. £13
Cream of Tartar—
Melbourne, 2 t. 10 c. £194
Cape Town, 5 cks. 20
Napier, 13 57
Bombay, 7 cs. 22
Fremantle, 3 12
B. Ayres, 10 39
Wellington, 5 22
Disinfectants—
Bombay, 255 pks. £122
Cape Town, 100 33
Lyttelton, 5 cs. 13
Singapore, 60 dms. 15
Guano—
Barbadoes, 80 t. £560

Lime—
Antigua, 3 t. 7 c. £12
Manure—
Jamaica, 10 t 3 c. £105
Cullera, 700 2,740
Jersey, 40 270
Rouen, 85 520
Bordeaux, 20 75
Orotava, 3 15 30
Malaga, 49 3 380
Landerneau, 184 552
Madeira, 30 210
Boulogne, 3 90
Nitric Acid—
Channel Is., 28 carboys £44
Oxalic Acid—
Bombay, 3 t. £117
Phosphate—
Paris, 9 t. 17 c. £70
Phosphoric Acid—
Grenada, 3 t. £33
Phosphorus—
Boston, 1 t. £261
Potassium Bichromate—
Piræus, 1 t. 1 c. £47
B. Ayres, 7 13
Potassium Chlorate—
Madras, 1 t. 4 c. £42
Potassium Chloride—
Calicut, 50 t. £476
Potassium Cyanide—
Antwerp, 19 cs. £210
Pt. Elizabeth, 4 t. 364
Delagoa Bay, 6 c. 35
Melbourne, 11 2 1,294
Sydney, 1 120
Potassium Sulphate—
Grenada, 3 t £33
Saltpetre—
Hamburg, 5 t. 9 c. £112
Sydney, 2 20
Syra, 5 10 99
New York, 1 14 46
Wellington, 1 10 30
Rio de Janeiro, 7 18 160
Sheep Dip—
M. Video, 1,000 cs. £2,250
San Francisco, 300 375
Oamaru, 20 30
Timaru, 50 75
Wanganui, 25 38
Bombay, 5 cks. 200 dms 50
B. Ayres, 1,750 7 t. 1 c. 4,176
New York. 10 cks. 15
Invercargill, 50 75
Gisborne, 23 38
Pt. Elizabeth, 500 638
Durban, 250 313
Soda—
Alexandria, 1 t. 3 c. £6
Sodium Bicarbonate—
B. Ayres, 1 t. £7
M. Video, 11 c. 6
Sulphur—
Durban, 1 kg. £9
Fremantle, 2 t. 18
Trinidad, 20 85
Delagoa Bay, 22 16
Sulphuric Acid—
B Ayres, 4 t. £38
Superphosphates—
Barbadoes, 230 t. £633
Bordeaux, 15 45
Tartaric Acid—
Sydney, 2 t. £231
Lisbon, 5 c. 29
Durban, 3 18
Karachi, 5 cs. 30
Hiogo, 10 kgs. 58

LIVERPOOL.

Week ending February 9th.

Acetic Acid—
Santos, 2 t. 3 q. £22
Alum—
Galatz, 5 t. 11 c. 3 q. £27
Dedeagatch, 10 1 2 46
Ibrail, 4 18 18
S. Paulo, 1 5
Smyrna, 5 1 2 27
Sydney, 1 5
Lisbon, 1 15 9
Madras, 7 6 3 30
Fiume, 1 10 8
Pernambuco, 1 1 5
Rebut, 1 5 3 6
Rio de Janeiro, 1 1 6
Alumina Sulphate—
Rio de Janeiro, 19 c. 3 q. £4
Ammonia—
Constantinople, 3 c. 2 q. £6
Santos, 11 11
Ammonium Carbonate—
Bordeaux, 1 t. 2 c. £35
Genoa, 25 kgs. 34
Hamburg, 1 30
Odessa, 2 50
Ammonium Chloride—
Leghorn, 10 c. 2 q. £17
Genoa, 6 cks. 51
Galatz, 1 t. 6 38
Ammonium Sulphate—
St. Nazaire, 9 t. 11 c. 1 q. £100
Genoa, 81 18 2 785
Gd. Canary, 40 375
Valencia, 265 1 2,252
Las Palmas, 136 2 1,434
Antimony—
Vera Cruz. 13 c. 2 q. £83
Bleaching Powder—
Ancona, 20 cks.
Bombay, 10 bxs.
Boston, 522
Cambria, 18
Cape Town, 40
Copenhagen, 11
Cornwall, 27
Coruna, 2
Genoa, 80
Lisbon, 10
Nantes, 15
New York, 382 95 brls.
Philadelphia, 197
Piræus, 5
Rouen, 9
Syra, 3
Valencia, 15
Vera Cruz, 31
Borax—
Montreal, 12 £180
Portland, M., 12 1 c. 2 q. 181
Hamburg, 21 11 313
B. Ayres, 5 83
Rotterdam, 10 8
Copenhagen, 2 2 34
Calcium Chloride—
Rouen, 10 t. 3 c. 2 q. £22
Carbolic Acid—
Hamburg, 7 c. £28
New York, 5 t. 12 2 q. 323
Yokohama, 6 315
Rotterdam, 10 5 210
Rouen, 5 12 1 355
Caustic Potash—
San Francisco, 16 t. 8 c. £

Caustic Soda—
Alexandria, 239 dms.
Ancona, 20
Antwerp, 16
Bahia, 30
Barcelona, 400
Bari, 120
Bilbao, 90 34 pks.
Boston, 170
Calcutta, 292
Callao, 35
Cartagena, N.G. 18
Corral, 40
Frontera, 4
Havana, 60
La Guayra, 25
Lisbon, 35
Louisville, 100
Madrid, 160
Melbourne, 30
Milwaukee, 150
New York, 50
Oporto, 30
Paysandu, 50
Parnahyba, 40
Philadelphia, 25 10 crts.
Piræus, 15
Pernambuco, 120
Puerto Monte, 50 kgs.
Rangoon, 15
Rotterdam, 80
Santos, 40
Seville, 75
Talcahuano, 50
Tampico, 200
Valparaiso, 150

Chemicals *(otherwise undescribed)*
B. Ayres, 3 t. 10 c. £50
Santander, 4 11 2 q. 65
Genoa, 1 15
Calcutta, 55 17 141
Melbourne, 15 70
Madras, 2 227
Philadelphia 20 1 2 602
New York, 17 3 50

China Clay—
Bilbao, 4 cks.
Bombay, 160 cs.
Boston, 1,501
Calcutta, 300
Philadelphia 462
Portland, M., 158
Sydney, 48
Trieste, 40

Coal Products—
Aniline
Barcelona, 16 cs.
Aniline Colours
Valleyfield, 2 cks.
Hiogo, 5 cs.
Creosote
Bordeaux, 500 cks. 250 brls.
Pitch
Cette, 435 t.
Genoa, 171
Rouen, 2 cks. 8 brls.
Tar
Forcados, 45 dms.
Hamburg, 266 brls.
Tar Salts
Antwerp, 200 bgs.

Copper Sulphate—
Leghorn, 19 t. 9 c. 2 q. £294
Venice, 495 1 3,056
Genoa, 117 3 2 1,900
Lisbon, 209 12 1 3,385
Odessa, 21 2 334
Nantes, 44 8 2 738
Brindisi, 33 19 551
Naples, 88 9 3 1,410
Bari, 173 11 2,729
Ancona, 217 14 3 3,477
Bordeaux, 332 13 3 5,311
Trieste, 129 1 1 2,089
Tampico, 15 222
Porto Alegre, 2 2
Constantinople, 60 4 112
Marseilles, 5 3 3 83
Cette, 50 14 2 675
Tarragona, 39 5 2 616
Oporto, 151 4 1 2,495
Halifax, 15 12
Smyrna, 1 1 16
Algiers, 4 19 81
Fiume, 9 19 2 161
Rio G. Do Sul, 2 9 1 41
Ghent, 5 81
Colombo, 1 16
Rouen, 64 1 2 944

Copperas —
Melbourne, 1 t. 3 c. 3 q. £2
Natal, 10 23

Creosote—
Bordeaux, 116 t. 6 c. 2 q. £299

Disinfectants—
Corinto, 1 cs. £5
Calcutta, 20 dms. 13
Toronto, 7 c. 14

Guano—
Malaga, 69 t. £414
Valencia, 21 4 c. 1 q. 90

Iron Oxide—
Toronto, 6 t. 1 c. £34
Hamburg, 10 1 60

Kainit —
Cape Town, 20 t. £53

Magnesia—
B. Ayres, 20 cs.
Genoa, 4

Magnesium Chloride—
Rouen, 10 t. 5 c 1 q. £24

Magnesium Sulphate—
Adelaide, 40 kgs.

Manure—
Las Palmas, 33 t. £182
Marseilles, 25 2 q. 95

Oxalic Acid—
Boston, 6 t. 10 c. £180
Barcelona, 9 22

Paint—
Adelaide, 8 cks.
Antwerp, qty.
Arica, 5 cs.
Axim, 14 pks.
Bathurst, 25
Calcutta, 151 kgs.
Callao, 135
Colombo, 4
Coquimbo, 75
Milan, 5
M. Video, 68
Old Calabar, 45 dms.
Para. 1 ck.
Pt. Said, 180 tins
Rosario, 3
Sierra Leone, 68
Smyrna, 20
Vera Cruz, 81
Valparaiso, 95 110 brls.

Painters Colours—
Alexandria, 2 cks. 25 dms. 54 kgs.
Amsterdam, 3
Antwerp, qty.
Bahia, 6
Lisbon, 23 pks.
New York, 15 bxs
Parnahyba, 13
Philadelphia 62
Rio de Janeiro, 18
Taltal 42
Wellington, 29

Paraffin Wax—
Chios, 23 cs.
Galatz, 50 bgs.
Jaffa, 20 5
Odessa, 233
Para, 5
Smyrna, 5
Syra, 10

Phosphorus—
Rio de Janeiro, 5 c. £70
Shanghai, 1 t. 4 240
Hiogo, 2 5 480
Vera Cruz, 2,212 lbs. 186
Tampico. 10 110
Mexico City, 10 110

Picric Acid—
S. Frisco, 4 t. 2 c. 1 q. £397
New York, 1 15 3 170

Potash—
Rio de Janeiro, 3 t. 4 c. 2 q. £54

Potash Salts—
N. Orleans, 18 t. 16 c. 2 q. £1680

Potassium Bichromate—
Alicante, 5 cks. £70
Vera Cruz, 5 84
Marseilles, 2 t. 2 c. 3 q. 75

Potassium Chlorate—
Montreal, 15 c. £24
Lisbon, 10 16
Pernambuco, 1 t. 40
Vera Cruz. 3 10 140
Gothenburg, 2 10 80
New York, 35 978
Rio de Janeiro, 11 18 346

Potassium Chloride—
Alicante, 3 t. 2 c. 2 q. £28

Potassium Prussiate—
Genoa, 8 cks. £97

Salt—
Abonneima, 10 t.
Algoa Bay, 8 19 c.
Amsterdam, 137
Antwerp, 295
Axim, 7 10
Baltimore, 615
Barbadoes, 120 10
Belize, 14 7
Boston, 200
B. Ayres, 52 3
C. C. Castle, 33 13
Copenhagen, 420 [illegible]
Demerara, 8 5
E. London, 22 6
Galveston, 200
Gd. Bassa, 25
Havana, 1 1
Kingston, 109 10
Lagos, 100
Labou, 18 15
Newcastle, 210
N. Orleans, 65
Opobo, 310
Old Calabar, 200
Para, 71 8
Pernambuco, 25 cs.
Punta Arenas, 20
Pt. Royal, 1,562
Rangoon, 1,929
Rio de Janeiro, 50
Rosario, 20
Rotterdam, 578
Savannah, 700
Sherbro, 100
Sydney, 113

Salt Cake—
Hong Kong, 1 t. £2
Antwerp, 120 154
Delagoa Bay, 10 25

Saltpetre—
Halifax, 10 c. £10
Ceara, 2 t. 4 2 q. 48

Sheep Dip—
N. Orleans, 34 t. 12 c. £180
M. Video, 6 12 144

Soap—
Alexandria, 70 bxs. 2 cs.
Algoa Bay, 1,215 3
Amboina, 1,000
Axim, 450
Bahia, 20 kgs.
Bakana, 100 bxs.
Belize, 945
Bluefields, 370
Benin, 50
Bombay, 10
Bonny, 50
Bugumba, 500
Calcutta, 500 bdls.
Cameroons, 200
Constantinople, 200 13 brls.
Delagoa Bay, 1,610 8
E. London, 25
Gibraltar, 200 pks.
Gd. Bassa, 81
Halifax, 400 cs.
Hong Kong, 801
Iquique, 1
Lagos, 200
Las Palmas, 1,309
Limassol, 7
Lisbon, 40
Macassar, 600
Matadi, 45
Menado, 1,000
Montreal, 102
New York, 37
Old Calabar, 1
Opobo, 50
Ottawa, 100
Patras, 30
Penang, 730
Piræus, 148 56
Pt. Elizabeth, 500
Pt. Natal, 240
Progresso, 1
Punta Gorda, 125
Pt. Said, 40
Rangoon, 950 28
Rotterdam, 200
St. Lucia, 50
Savannah, 50
Shanghai, 4,479
Singapore, 705
Smyrna, 75
Sydney, 3,693
Toronto, 2
Trinidad, 504
Vladivostock, 675
Sierra Leone, 240
Valparaiso, 2 cks.

Soda Alkali —
Monastier, 40 brls.

Soda Ash—
Ancona, 8 cks.
Antwerp, 550 bgs.
Barcelona, 50
Boston, 160 83 tcs. 56
B. Ayres, 100 brls.
Calcutta, 100 kgs. 40
Delftshaven, 1 334 bgs.
Hamburg, { 480 / 50 kgs.
Johannesburg, 180
Lisbon, 140 20
Maranham, 10
N. Orleans, { 400 bgs. / 25 tcs.
New York, 570 13
Parnahyba, 10 brls.
Paysandu, 50
Payta. 10
Philadelphia, 540
Rio de Janeiro, 40
Salonica, 122
St. Stephen's, N.B., 18
Sydney, 105
Venice, 300 bgs. 97

Soda Crystals—
Adelaide, 34 bls.
Alexandria, 122 bgs.
Boston, 100 360 14 ck
Malta, 56
New York, 378
Philadelphia, 140
Pt. Said, 84
Rosario, 75
Valdivia, 10 kgs.

Sodium Bicarbonate—
Alicante, 10 kgs.
Amsterdam, 50
Ancona, 40
Antwerp, 9 cks.
Barcelona, 335
Bari, 34
Batavia, 10
Brindisi, 25
Calcutta, 25 7
Cartagena, Sp., 15
Dunkirk, 50
E. London, 100 bgs.
Genoa, 102 kgs. 17
Hamburg, 100
Karachi, 525
Marseilles, 150
Melbourne, 50
Mossel Bay, 10
Nantes, 32 brls.
Odessa, 310
Para, 10
Rangoon, 37 pks.
Rio de Janeiro, 50 kgs.
Rotterdam, 73 pns. 20
Santos, 10 kgs.
Smyrna, 30
Sydney, 240
Valencia, 160
Venice, 20
West Indies, 10

Sodium Bichromate—
Madras, 50 kgs.

Sodium Chlorate—
Barcelona, 1 t.
Antwerp, 19 c.

Sodium Naphthionate—
Barcelona, 6 cks.

Sodium Nitrate—
Alicante. 40 bgs.

Sodium Silicate—
Nantes, 14 dms
Santander, 12 brls.

Sulphur—
Gothenburg, 8 t 2 c.
Lisbon, 40
Halifax, 15 2 q.
Belize, 10
Boston, 25 1

Sulphuric Acid—
San Benita, 5 cs.

Superphosphate—
Cape Town, 200 t.
Nantes, 268 10 c. 3 q.
Las Palmas, 9
Havre, 90 1
Marseilles, 33 4
Valencia, 270 2 2

Tartaric Acid—
M. Video, 1 c.
Natal, 2 1 q.

Varnish—
Antwerp, 20 cks.
Auckland, 20 cs.
Barcelona, 7 brls.
Bilbao, 6
Constantinople, 5 cs.
Dunedin, 20
New Haven, 4 pks.
Odessa. 9
Old Calabar, 30 dms
Seville, 1 brl.
Wellington, 15 cs.
Valparaiso, 27

White Lead—
Rosario, 20 kgs.

MANCHESTER.

Week ending February 9th.

Alum—
Alexandretta, 42 brls.
Germany, 22 tcs.

Ammonium Carbonate—
Hamburg, 5 cks. 1 kg.

Ammonium Chloride—
Beyrout, 3 brls.

Aniline Colours—
Germany, 1 cs.

Aniline Oil—
France, 9 dms.

Aniline Salts—
Germany, 17 puns.

Asbestos—
Bombay, 1 cs.

Carbolic Acid—
France, 4 cks. 14 btls.

Caustic Soda—
Beyrout, 40 dms.

Copperas—
Alexandretta, 78 brls.

Glue—
Holland, 24 cks
Germany, 22
Belgium, 10

Linseed Oil—
Alexandria, 75 brls.

Naphthylamine—
Switzerland, 14 cks.

Paraffin Wax—
Alexandretta, 8 cs.
Jaffa, 20

Pitch—
Cette, 1,918 t.

Plumbago—
Copenhagen 14 cks.

Soda Ash—
Beyrout, 150 brls.

Sodium Naphthionate—
Switzerland, 15 cks.

Tallow—
Bombay, 45 brls.

Tar—
France, 30 brls.

Tar Oil—
Belgium, 10 tins 5 dms.
Germany, 3

Turpentine—
Alexandria, 10 brls. 38 dms.

Zinc Chloride—
France, 6 cks.
Bombay, 5

HULL.

Week ending February 5th.

Alkali—
Hamburg, 1 ck.

Ammonium Sulphate—
Antwerp, 200 bgs.
Dunkirk, 100
Ghent, 400
Leghorn, 500
Rotterdam, 100

Bleaching Powder—
Stettin, 25 cks.

Chemicals (*otherwise undescribed*)
Amsterdam, 72 cks. 14 pks.
Bordeaux, 9
Bergen, 2 cs.
Christiania, { 9 4 17 366 slbs.
Danzig, 11 22 pks.
Gothenburg, 1 9 6
Genoa, 68
Hamburg, 1
Hango, 17
Marseilles, 112
Naples, 3
Rotterdam, 19 62
Reval, 3
Stettin, 3 1 11

Cod Oil—
Bordeaux, 18 brls.

Cottonseed Oil—
Antwerp, 807 c.
Amsterdam, 1,898
Bremen, 314
Copenhagen, 500
Christiania, 18
Gothenburg, 150
Genoa, 52
Hamburg, 1,074
Marseilles, 6,115
Rotterdam, 557

Dextrine—
Reval, 40 sks.

Dyestuffs (*otherwise undescribed*)
Boston, 5 cks.
Rotterdam, 5
Reval, 3 cs.
Stettin, 60 bls.

Linseed Oil—
Amsterdam, 100 c.
Copenhagen, 35
Christiania, 205
Christiansund, 43
Drontheim, 53
Hamburg, 59
New York, 189
Rotterdam, 105

Manure—
Genoa, 201 t.

Mineral White—
Rotterdam, 10 cks.

Naphthaline—
Genoa, 136 bgs.

Painters' Colours—
Antwerp, 11 cks.
Amsterdam, 59
Bremen, 34
Copenhagen, 10 1 cs.
Christiansund, 64 kgs. 16 dms.
Drontheim, 1
Dunkirk, 1 ck.
Gothenburg, 3 pks.
Ghent, 5 12 dms.
Genoa, 30
Hamburg, 17 1 1
Hango, 6 3
Harlingen, 4
New York, 75
Rotterdam, 3 6
Stettin, 8 cks.
Stavanger, 1 tin 2

Pitch—
Antwerp, 129 t.
Dunkirk, 175

Soap—
Amsterdam, 126 cs.

Tar—
Antwerp, 6 cks.
Amsterdam, 16
Christiania, 10
Danzig, 5
Hamburg, 5
Rotterdam, 20

Toluol—
Rotterdam, 23 brls.

Varnish—
Hango, 10 dms.
Marseilles, 3 cs.
Reval, 1

GLASGOW.

Week ending February 10th.

Acids—
Mauritius, £32

Alumina—
Rouen, £22

Ammonium Sulphate—
Castellon, 29 t. 16¾ c.
Cullera, 202 19¾
Valencia, 55 14½
Rotterdam, 50 14
Mauritius, 102 ¾

Antimony—
Rotterdam, £30 10s.

Bichrome—
Dunedin, £32

Bleaching Powder—
Dunedin, 6 t. ¾ c.
N. S. Wales, 6 2¾

Boracic Acid—
Hiogo, £95
Sydney, 35

Borax—
Dunedin, £46
Sydney, £23 17s.

Carbolic Acid—
Rotterdam £200

Caustic Soda—
Dunedin, 11 t. 4 c.
Mauritius, 5 17

Chemicals (*otherwise undescribed*)
Dunedin, £45

Chloroform—
Sydney, £142

Coal Products—
Benzine
France, £255
Creosote Oil
U.S.A., £125
France, £543 12s.
Naptha
Paris, £221
Rotterdam, 110
Dunedin, 8
Pitch
Rotterdam, 300 t.
Hamburg, 9 14 c.
Havre, 610
France, £313
Tar
Christiania, £35
Mauritius, £21 11s.

Coal Products (*otherwise undes.*)—
Amsterdam, £23

Cutch—
Rotterdam, £35

Dried Blood—
Mauritius, 51 t. 5½ c.

Dyestuffs (*otherwise undescribed*)
Christiania, £28

Farina—
Amsterdam, 10 t. 4 c.

Gelatine—
Dunedin, £36

Lead Nitrate—
Paris, £200
Rotterdam, 10

Linseed Oil—
Mauritius, 2 t. 6¾ c.
Auckland, 3 11¼

Litharge—
Montreal, £169
Antwerp, 36

Logwood—
Dunedin, £94
Lisbon, 35

Manganese—
Basle, £95

Paint—
Shanghai, £30
Invercargill, 126
Wellington, 61

Painters' Colours—
Calcutta, qty.
Dunedin, "
Auckland, "
Christchurch, "
Newcastle, £128
Sydney, "

Paraffin Wax—
Barcelona, £320
Paris, 106
Rouen, 63
Bordeaux, 58

Potassium Bichromate—
Rouen, £351
Christiania, 15
Antwerp, 140

Potassium Chlorate—
Sydney, £175

Potassium Cyanide—
Singapore, £96

Soap—
Pt. Lyttleton, £35
" 16 c.

Sodium Bichromate—
Rouen, 15 t. 16½ c.
Antwerp, 1 17½
Ghent, 4 18¼

Starch—
Barcelona, £40
Hong Kong, 22

Tallow—
Rotterdam, 18 t. 17 c.

Treacle—
Bergen, 2 t. 15 c.
Algoa Bay, 2 10

TYNE.

Week ending February 5th.

Antimony—
Hamburg, 5 t.

Barium Binoxide—
Hamburg, 5 t. 12 c.
Rotterdam, 6 10

Barium Carbonate—
Rouen, 35 t.

Bleaching Powder—
Rotterdam, 9 t.
Ghent, 25 2 c.
Drontheim, 11 7
Gothenburg, 25

Carbolic Acid—
Odense, 12

Caustic Soda—
Genoa, 34 t 16 c.
Barcelona, 40 9
Antwerp, 4 18
Copenhagen, 3
Colon, 151
Reval, 51 18
Gothenburg, 50 4
Amsterdam, 8 14

Iron Oxide—
Genoa, 3 t. 2 c.

Lamp Black—
Gothenburg, 3 t. 1 c.

Litharge—
Hamburg, 15 c
Antwerp, 4 t.

Magnesia—
Valencia, 3 t. 15 c.
Barcelona, 7 17
Hamburg, 15
Antwerp, 14
Copenhagen, 4

Magnesium Carbonate—
Copenhagen, 12 c.

Manure—
Valencia 250 t.

Paint—
Hamburg, 1 t. 10 c.
Antwerp, 6 3
Rotterdam, 3
Bergen, 5

Paraffin Wax—
Barcelona, 5 t.
Colon 1

Phosphorus—
Valencia, 2 t. 11 c.

Pitch—
Rouen, 20 t.

Potash—
Copenhagen, 7 c.

Soda—
Rotterdam, 25 t. 2 c.
Ergasteria, 1 3

Sodium Sulphide—
Antwerp, 2 t. 3 c.

Sulphur—
Hamburg, 150 t.
Reval, 50
Gothenburg. 30

Tallow—
Genoa, 4 t. 4 c.

White Lead—
Copenhagen, 1 t. 9 c.
Gothenburg, 12

GOOLE.

Week ending February 2nd.

Chemicals (*otherwise undescribed*)
Rotterdam, 200 cks.

Coal Products (*otherwise undes.*)—
Amsterdam, 1 ck.
Boulogne, 48
Hamburg. 1 1 cs.
Rotterdam, 95 1

Colours—
Antwerp, 2 cs.
Boulogne, 1
Ghent, 3 cks.
Rotterdam, 3

Manure—
Dunkirk, 283 bgs.
Ghent, 74

Pitch—
Antwerp, 758 t.
Dunkirk, 254

Salt Cake—
Ghent, 100 t

GRIMSBY.

Week ending February 5th.

Caoutchouc—
Port au Prince, 4 pks.

Coal Products (*otherwise undes.*)—
Dieppe, 26 cks. 30 brls 4 pks.
Hamburg, 20 btls 3 cs. 5

Colours—
Antwerp, 1 kg. 2 cs.
Dieppe, 2 pks.
Hamburg, 6 cks.
Port au Prince, 9
Rotterdam, 3 kgs.

Varnish—
Dieppe, 2 cks.

PRICES CURRENT.

WEDNESDAY, FEBRUARY 16TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„			39/-
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	20	17	6
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	3
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/-	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	10	0	0
„ „ (grey) Hull	„	10	0	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	30	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	4
„ 50/90 „	„	0	1	6
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97%)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	2	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	8	9
„ Sulphate	„	16	15	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	7	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton		10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	—	13	12	6
„ Litharge Flake (ex ship)		16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ *Nitrate*	„	20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	8	0	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	15	0
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	9
„ „ Miscible, 60° O.P	„	0	3	7
Oils :—				
Cotton-seed	per ton	15	0	0
Linseed	„	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	16	5	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (renned)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1 13/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „	4	0	0
„ „ (Alkali) 58 %	„ „	4	0	0
„ „ (Soda Crystals)	„ „	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4¼
„ Borate (Borax)	net, per ton.	13	0	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton	8	10	0
„ „ (74 % Caustic Soda)	„ „ „	8	2	6
„ „ (70 % Caustic Soda)	„ „ „	7	5	0
„ „ (60 % Caustic Soda)	„ „ „	6	5	0
„ „ (pure liquor 90° Tw.)	„ „ „	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅛
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	4¾
„ English Ingots	per ton	66	15	0
Zinc (Spelter)	„	18	1	3
„ Chloride (solution, 100° Tw.)	„	5	15	0
„ Sulphate, Crystal	„	5	15	0

THE

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AND

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LATE ADVERTISEMENTS.

TENDER.

TO CHEMICAL MANUFACTURERS AND OTHERS.

THE Rivers Committee of the Manchester Corporation invite TENDERS for the supply of about 2,000 tons or thereabouts of PROTO SULPHATE OF IRON (commercial green vitriol), to be delivered at the Davyhulme Sewage Works *via* Ship Canal. Copy of specification and tender form may be obtained on application to the City Surveyor, Town Hall, Manchester. Tenders to be addressed to the Chairman of the Rivers Committee, endorsed "Tender for Proto Sulphate of Iron," and delivered at the above office not later than 10 a.m. on Saturday, the 5th March next.

The Corporation do not bind themselves to accept the lowest or any Tender.

WM. HENRY TALBOT,
Town Clerk.

Town Hall, Manchester,
21st February, 1898.

TAR and Asphalte Works.—To Let, 20 minutes from London Bridge, on Canal, 22,000ft. Super, Two ordinary Tar Stills (fitted), Offices, Sheds, etc., suitable for Chemical Works, together or separate. Rent low. —Address, Mr. E. Symonds, 14, Rue Sainte Gudule, Brussels.

ACID Works.—Wanted position by qualified practical man, with 25 years' practice in process and construction of modern plant. Acquainted with all methods for concentrating Sulphuric Acid.—Address, "S," 96, Manchester-road, Little Hulton, near Bolton.

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Each additional 10 words..... 0s. 3d. "

A CHANGE FOR THE BETTER.

TIME and insistence work wonders, and this fact is pleasingly confirmed by the right-about-turn the London County Council has taken over the flash-point question. How is this for a sensible resolution, recently adopted by the Council? Resolved:—"That, in view of *the dangerous nature "of low-flash petroleum oils sold in London*, and the numerous "fatal and other accidents that occur through the use of such "oils in lamps, it be referred to the Public Control Committee "to further investigate the causes of such accidents, with a "view to representations being submitted to Parliament as to "the desirability of raising the flash-point fixed by the "Petroleum Acts."

We are far too well satisfied by this commendable change of front to wish to taunt the Council, but in order that the full virtue of this unreserved expression of opinion may be duly appreciated, it may be briefly pointed out that barely two years ago the Petroleum Inspectors under the L.C.C. were here, there, and everywhere at inquests on petroleum fatalities, vehemently declaring that no dangerous oil ever came into London, while the lamp was denounced, ridiculed, anathematised in riders by juries, and lampooned generally, thus screening the oil from the scrutiny of the suffering public. Knowing this, it is only necessary to re-read the words we have italicised in the resolution; after which silence is golden.

However, we are quite content to let byegones be byegones, especially as the Council has gone farther than the above resolution, for, on Tuesday, they adopted the recommendations of the Public Control Committee, and have decided to petition the Select Committee on Petroleum that "the flash-point fixed by the Petroleum Act should be raised "to 105° Fah. (Abel test)."

This is a decided step, and we commend it to the notice of Dr. Dupré and his confrères. It is evident that the "one hoss show" days of the almighty-dollar-devotees are about ended, and high time too. It certainly is a most significant, convincing, and re-assuring fact that directly their eyes and ears were opened to the truths so long expounded by those outside the charmed circle of low-flash monopolists, so influential a body as the L.C.C. should be thus absolutely converted to a belief in the greater safety of high-flash oil.

There are only two possible loopholes for the low-flash advocates that we can foresee at present, and those are the ever recurrent scarcity and cost bogeys. It is just possible that a final attempt to bluff the Committee will be made, and it is as well, therefore, to put on record the following recent developments.

First, as regards scarcity, the Anglo-Caucasian Oil Co. have spoilt that little game. If the Rockefellers cannot provide enough safe oil, the Rothschilds will. They are already doing so. That the American interests have decided

to swallow this pill, their latest "grab" in Holland clearly shows. An account of this "deal" is given elsewhere in this issue, and shows how imperative it is that there should be an outlet for their naphtha compound, if the millions are to keep rolling in.

Coming to the question of cost, we can show, in two ways, that "the dog's dead."

In the first place, an abundant supply of oil, testing 105°F. (Abel), is being offered, and will be offered, to the public at the same price as "Royal Daylight" and its compeers, which, as we have so often been told, is the "poor man's light." He can, therefore, now obtain a safe oil at the price of the old sudden-death stuff.

In the second point, we have perhaps the most convincing proof of all. It has been sworn again and again that if the flash-point was raised, up would go the price of oil, to a point far beyond the reach of the "poor man," for whom the American gang seemed so extremely solicitous. On the contrary, it has been shown time after time that a farthing to a halfpenny a gallon would be all the change that was possible if the Americans were to keep their hold on the British market. What the Government and their ear-plugged expert advisers would not listen to, the Anglo-Caucasian Oil Company has actually proved to demonstration.

Directly there was competition the Americans "found" some safe oil, flashing at 103°F. (Abel), and this, under a fancy name, is now being "boomed" for all it is worth, at *one farthing per gallon more* than the old familiar "Royal Daylight" or "Tea Rose." We think the British poor can stand the racket of this "oppressive advance." As a matter of fact, the saving in funeral expenses will cover the advance for a lifetime.

In conclusion there is one other point which we call attention to for the benefit of those kind friends and contemporaries who shrug their shoulders and smile at those hysterical, misguided, high-flash agitators. For years Royal Daylight Oil has been allowed to pass into circulation in this country in barrels branded 150° test. We and others took up this point some time ago, and it was then pleaded as an excuse that 150° American test was the equivalent of 76° Abel. Our kind, watchful Government could not detect this disgusting piece of jugglery, even with two experts and an inspector of explosives to help them, nor would they attach importance to the practice when all its fraudulency was exposed. The mere statement of the fact that the tests were equivalent was enough. "Blind eyes front!" "Next, please!" "Pass on there and don't obstruct the conduct of Public Affairs!" Perhaps these vigilant, fair-minded, public servants will appreciate the slur that is cast upon them when they learn that with this new brand of safe oil a special point is made of the high-test, which is being freely advertised as "103° Abel Close Test. *Equals* 150° *American Test.*" We thought 76° Abel equalled 150° American test! Who was being hocussed, the Government experts or the chemists who urged this deception on the Government? Perhaps the Government will give a hearing to high-flash supporters now, and not dub them all hood-winked tools. They will find the latter nearer home.

Motor Vehicles for Heavy Traffic.—A practical trial of motor vehicles for heavy traffic is to take place at Liverpool in May next. The London and Liverpool Councils of the Self-Propelled Traffic Association have jointly invited the Automobile Club de France to send delegates to attend, and it is expected that Baron de Zuylen de Nyevelt (president), and the Compte de Dion (vice-president), and other prominent members will visit Liverpool on the occasion, and a public dinner will be given in their honour.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

BORIDE OF IRON.

(To the Editor of the Chemical Trade Journal.)

Sir,—I am desirous of learning the name or names of makers of boride of iron, which I believe is being made on a commercial scale. By inserting this in your correspondence column you will, I am sure, much assist me in my quest for the makers, and oblige—Yours, etc.,

C. S. B. G.

IMPORTS AND EXPORTS FOR JANUARY.

The Board of Trade returns for last month were satisfactory on the whole. In the *imports*, petroleum and turpentine were higher and also nitrate of soda. The *exports* of alkali and manures show an increase; bleach and copper sulphate were lower.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE

Articles.		Quantities. 1897.	Quantities. 1898.
Margarine	Cwt.	76,901	70,090
Copper Ore and Regulus	Tons.	7,280	9,302
Pyrites	,,	45,956	61,646
Tin	,,	45,510	53,864
Alkali	Cwt.	25,237	13,975
Borax	,,	—	10,134
Brimstone	,,	28,192	12,129
Dyes, Coal Tar	£.	52,169	42,978
Saltpetre	Cwt.	28,666	28,261
Petroleum	Gall.	13,240,569	21,398,923
Turpentine	Cwt.	40,114	78,419
Guano	Tons.	1,510	717
Nitrate of Soda	,,	7,784	17,728
Paraffin	,,	62,679	93,067
Rosin	Cwt.	250,780	243,601
Tallow and Stearine	,,	189,386	180,759
Oil Seed Cake	Tons.	26,546	43,552
Wood Pulp	,,	—	32,201

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.		Quantities. 1896.	Quantities. 1897.
Alkali	Cwt.	327,804	336,731
Cement	Tons.	27,645	22,792
Coal and Coke	,,	2,763,954	2,909,809
Copper, all kinds	Cwt.	55,891	77,847
Iron and Steel	Tons.	246,996	284,189
Chemical Manures	,,	32,846	34,888
Oils, seed	,,	4,451	4,296
Salt	,,	54,859	62,417

A Substitute for Leather.—A demonstration was given recently at the engine works of Messrs. Geo. Harradon and Co., Queen's Dock, Liverpool, by Mr. G. K. Littlefield, Boston, of the process of manufacture of a material called Dermatinos, for use in the manufacture of boots and shoes. The machine used in the manufacture is a very simple one, consisting of some three rollers, two placed vertically, round one of which the special unsized paper is rolled after first passing over one large roller, over another bar or guide roller, under another similar one placed at bottom of a tank containing some chemical preparation, through which the paper to be treated passes. From the well it passes on to the lower large-size roller, and is there wound round to the desired thickness, which is governed by the turns of the machine. The paper is then cut, and the rolls turned for a few minutes, after which a sharp knife cuts the rolled paper on the barrel from side to side. This is then placed in a bath, where it remains for a time varying from two days to two and a half weeks according to thickness. It is then removed, undergoes two other chemical treatments, the compound, by the way in which it is "cooked," reminding one very much of ordinary animal glue, and after drying it is ready for the market. The whole process lasts, at the outside, a month. It is stated that this material can be produced at less than one-half the cost of the ordinary leather used for the purpose, for which it is claimed Dermatinos is suitable. In fact, its adaptability for belting and ordinary soling and heeling of boots is considered excellent.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Saccharine. W. H Claus, A. Rée, and L. Marchlewski. 3,020. February 7.
Improved Pigment or Paint Material. P. L. Whitehouse. 3,031. Feb. 7.
Manufacture of Sulphuric Acid. P. Marino. 3,064. February 7.
Production of Saccharine. G. B. Ellis 3,081. February 7.
Centrifugal Separating Apparatus. I. P. B. Knudsen. 3,108. February 7.
Electrolytic Treatment of Sulphides. J. Swineburne. 3,136. February 8.
Treating Complex Sulphides. J. Swineburne. 3,137. February 8.
Separating Metals. J. Swineburne. 3,138. February 8.
Producing Ozone. G. B. Ellis. 3,172. February 8.
Producing Tannin. H. H. Lake. 3,177. February 8.
Electrolytic Treatment of Sugar Juice. E. de Pass. 3,192. February 8.
Electrolytic Treatment of Sugar Juice. E. de Pass. 3,193. February 8.
Preparing and Treating Lime. H. J. Harding. 3,203. February 8.
Treating Sugar, etc. F. P. Candy. 3,133. February 10
Purifying Fats. S. G. Rosenblum and The Commercial Ozone Syndicate, Ltd. 3,399. February 10.
Improved Anodes. H. E. Beach. 3,431. February 11.
Treating Sewage. F. M. and D. D. Spence. 3,450. February 11.
Obtaining Metallic Beryllium. L. Liebmann. 3,497. February 11.
Churning White Lead into a Pasty Condition. G. Bischof. 3,582. February 12.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Electric Furnaces for Use in the Manufacture of Calcium Carbide, applicable also for Obtaining Metals from their Salts. L. Bresson, 143, Avenue de Saxe, and P. Pacotte, 30, Rue Servient, both of Lyons. Eng Pat. 2,790. February 2 1897.

A graphite crucible is surrounded by a mass of asbestos or other non-conductor, and the whole encased in a steel jacket. To the latter spindles are attached, and mounted in bearings, so that the furnace can be turned upside down. Electrical connection is made with the bottom of the crucible for the positive current, while the negative current is passed in through a bunch of carbon poles carried on an arm, which can be raised or lowered by a ratchet and wheel. To this ratchet a small motor (connected in shunt) is also attached by a toothed wheel, by means of which the arc can be regulated, since when there is a short circuit the current passes to the motor and moves the carbons, until the point is reached at which it only receives enough current to prevent the carbons from descending again. The equilibrium is thus maintained with a comparatively small loss of energy. There is one figure.

A New or Improved Electrolytic Method of and Apparatus for Saponification. A. L. C. Nodon, L. A. Bretonneau, and P. d'Alton Shee, 12, Rue Vivienne, Paris. Eng. Pat 27,129. November 19, 1897.

The oil to be saponified is placed in a bath fitted with metallic agitators, which constitute the cathode. A porous earthenware dish is fixed at the top of the bath so as to dip a little way into the liquid in the bath. The caustic lye is placed in these porous vessels along with iron anodes. The bottom of the porous vessel, on the exterior, is kept free from any crust or deposit by a scratch brush attached to the upper arm of the agitator. The bath is kept at 90°C. to 100°C. during the saponification process, which lasts about seven hours. A current of 2—4 volts, using 100 amperes per cubic foot of material made into soap, is required. There are two figures.

An Improved Method of Producing Ammonia. C. H. Mehner, 5 Savigny-platz, Charlottenburg, Germany. Eng. Pat. 2,654. February 1, 1897.

The first part of the reaction is performed, as usual, by the aid of the electric furnace, in which a charge of alkali and coke is heated and subjected to a current of hot air, producer gas, or other nitrogen containing gaseous mixture. The cyanide vapours as formed are removed into a condenser placed above the furnace, and charged with coke. When the evolution and condensation of the cyanide is completed, steam is introduced into the condenser with the formation of ammonia and the regeneration of the alkali. The coke, impregnated with the latter, is hot and ready to be dropped into the furnace beneath to form another charge. The condenser is worked in such a manner as to keep the bottom heated and effect the condensation in the upper layers. Thus much of the heat from the furnace (which represents electrical energy) is saved and used over again. The steaming process also generates heat, which is utilised.

Improvements in and Relating to the Manufacture of White Lead. T. C. Sanderson, of Brooklyn, Humbee-road, Westcombe Park, London. Eng. Pat. 6,324. March 10, 1897.

A solution of basic lead acetate is blown with carbon dioxide. The precipitate is allowed to settle, the clear neutral acetate solution run off, and a fresh charge of basic acetate introduced. When sufficient precipitated white lead has collected it is filter-pressed and washed, etc. The precipitate thus obtained is much denser than that obtained by the first carbonation. The neutral liquor is used over again for preparing fresh basic liquor. Definite proportions of lead hydrate and carbonate can be obtained by regulating the number of precipitations.

An Improvement in the Manufacture of Cement. Petrifite, Ltd., 18, Austin-friars, London (communicated by J. Steiger, of the firm of Georgii and Harr, Athens). Eng. Pat. 29,212. December 19, 1896.

Magnesium chloride, mixed with a little water, is boiled from eight to ten hours, with constant agitation until of a pasty consistency. The mass is cooled, ground, and mixed with powdered calcined magnesite (MgO) and powdered lead acetate. The proportions are: 35% magnesium chloride, 60% magnesia, and 5% lead acetate. The dry powder which results can be made into a cement with water.

FRESH VICTIMS FOR THE S.O. CO.

A NEW OUTLET FOR THE "DEADLY 73°"

THE absorbing capacity of the American Standard Oil Company is finding fresh illustration in Holland. At the general meeting of the Moeara Enim Petroleum Company, of the Dutch port, held on the 24th inst., a resolution to confirm a provisional agreement between the directors of the Netherlands-India Company and the Great American Company was submitted. Prior to the formation of the Moeara Enim Company the supplying of Netherlands-India with petroleum was almost exclusively in the hands of the Standard Oil Company, and the provisional arrangement now in question is referred to as a first step on the part of the huge American "combine" to get rid of the new competition. A circular issued by the directors of the Moeara Enim Company to the shareholders gives the particulars of the proposed arrangement. A new joint-stock company, with its registered offices in Amsterdam, is to be formed with a capital of 30,000,000 florins (£2,500,000.) of which 10,000,000 florins (say £830,000. in round figures) is to be paid up. Of this sum 6,000,000 florins is to be provided by the Standard Oil Company, while 4,000,000 florins will represent the contribution of the existing Moeara Enim Company. In the event of an increase of the capital becoming desirable the Standard Oil Company is, in the first instance, to provide an additional 2,000,000 florins, which will make the holding of that Company equivalent to two-thirds of the total stock; and this proportion as between the American Company and the Dutch shareholders in the new Amsterdam Company is thereafter to be maintained in the event of any further issues being made. Both Companies pledge themselves not to part with their respective holdings to any third interest for the next twenty years; but the Standard Oil Company reserves the right to take up the total stock allotted to the Moeara Enim shareholders within five years, at a price equivalent to five times the par value. The agreement is, of course, a very favourable one to the shareholders of the Moeara Enim Company, and a rapid advance in the price of its shares has taken place in consequence, with a corresponding decline in the shares of a rival company. Some anxiety is expressed, however, as to the probable effect on the interests of consumers of petroleum in Netherlands-India and elsewhere. [Now the game is practically up in Great Britain, this move was only what was to be expected. It only shows that the real cause of all the American difficulties raised against safe oil was the fear of losing a good market for their dangerous rubbish. Well, the Hollanders have only to persist as we have done and they will get safe oil. They have an excellent champion in Lobry le Bryun, which is more than we had.—ED. *C.T.J.*]

THE BED OF THE CAPITALIST IS NOT ALL ROSES.—The depression in the tin-plate industry and losses from strikes have compelled Messrs. E. Morewood and Co., of the South Wales Works, Llanelly, to ask for indulgence from their creditors. Morewood's has been a firm of the highest standing for many years, employing over 1,200 hands at the Llanelly works and 700 at Cwmbwrla. In May last year the firm was converted into a limited liability company with a capital of £168,750. It is estimated that the assets will be more than sufficient to pay in full all the company's obligations. Meantime, the works will be carried on with a reduction of 15 per cent. in the wages of the tin-plate and black-plate departments. The greatest sympathy is felt with Messrs. Morewood and Co. throughout South Wales.

NATIVE CARBONATE OF SODA.

THE Arizona School of Mines has recently completed an investigation of the "trona," or crude carbonate of soda, brought in from a deposit near the head of the Gulf of California. It is known as the Santa Helena Soda Deposit, and has been taken up under the mining laws of Mexico by Messrs. Andres and Joseph Rebeil of Tucson, Arizona. The location is in the northernmost portion of the State of Sonora, Mexico, in the mining district of Altar, about 2½ miles from Adair Bay, and directly upon the shore of the Gulf. It is thus not far from the international boundary line, and is most directly accessible by water from Yuma or the Colorado, or overland from Gila Bend station on the Southern Pacific Railroad. The shores of the eastern side of the Gulf at the place are generally low and shelving, and broad areas are left bare at low tide, but at this particular point it is claimed that the water is deep enough for vessels of moderate draft to lie safely at anchor, where they can take in cargoes of soda from lighters.

The soda is found in the central portion of a basin shaped depression, described as a dry lake, about one mile in length and breadth. The soda is spread out in a white sheet or layer over an area of some 60 acres, and resembles a mass of snow and ice, or the surface of a frozen lake. The few tests that have been made by digging and boring down into this deposit show that it has a thickness varying from 1 to 3 feet, partly overlaid by a stratum of sandy earth some 3 ins. thick. The lowest portions of the soda bed are saturated with water, or rather with a solution of soda in water, and this seems to underlie the bed for a depth of 2 feet. The solution is so strong that when exposed to the air and sun soda rapidly crystallizes out and forms in layers to a depth of nearly 3 ins. in less than 30 days.

The valley appears to have several permanent springs of water of small volume, but in the very centre of the deposit there is a spring, or water-hole, where potable water can be had in quantity. No investigation has yet been made of this spring water which may on analysis be found to contain enough soda in solution to give origin to the great deposit, by long continued evaporation. The existence of water fit to drink is a most important advantage in that arid region.

The purity of the sodium carbonate of this deposit is remarkable. It is brought in from there in large mains almost free from sediment or earthly impurities. It may be obtained in clean crystals and crusts by solar evaporation of the concentrated or saturated water from the bottom of the bed, but in digging in the large way, there appears to be a notable mixture of insoluble clay and very fine sand, an earthly impurity which probably has been blown in upon the soda lake by the winds from the surrounding hills of Colorado River silt, as shown by the analysis of the average sample:

COMPOSITION OF THE AVERAGE SAMPLE.

	Per cent.
Sand, silt, etc., insoluble in water	13·00
Iron oxide and alumina	2·80
Lime	1·14
Salt	4·70
Sulphate of soda	4·70
Carbonate of soda	75·86
Total..	100·00

One avoirdupois pound of this sample leached with cold water gave 75 per cent. of clean white sodium carbonate, including the small quantity of other soluble salts. Hot water gives a larger product. There appears to be an increase of weight by absorption of water. The weight and bulk of the product by lixiviation is much reduced by ignition, thus driving off a considerable amount of water. It would appear to be desirable to dissolve the trona, and to filter or decant to get rid of the insoluble impurities, but this would perhaps remove the product from the free list and subject it to a considerable import duty in the ports of the United States.

Another sample of selected crystals was analysed by Professor Robert H. Forbes and Mr. M. H. Walker, in the chemical laboratory of the agricultural experiment station of the University. They found the specific gravity to be 2·33. The qualitative examination showed, in addition to the carbonate of soda, a trace of chlorine and sulphates, no sulphides, and no lime, barium or silica, no potassium or ammonia. Some of the sodium was in the form of bicarbonate. The equivalent of 71·96 per cent. of Na_2CO_3 was found by titration with standard H_2SO_4.

The owners estimate that this deposit will yield 1,000 lbs. of soda to each square yard of area, and that the soda can be dug and put on ship board for about 8s. 6d. per ton. In one test it was found that one man could throw up four tons of the soda in one day.

The height of the deposit above mean tide is about 27 ft. The plan is to construct a tramway to the water of an inlet navigable for lighters drawing less than 6 ft. of water, by which the mineral can be transferred in bulk to a vessel lying in deep water.

It is proposed to ship this trona to San Francisco, where an important use for it will be found in making borax from the crude tincal, or boracic acid, of Nevada. It has been suggested, also, that the borate of lime—Colemanite—of Nevada might be brought to Yuma, and there meet the carbonate of soda and produce borax. There is a scarcity of fuel at this locality, but for purposes of evaporation the ardent rays of the sun and the dry air are satisfactory substitutes.—*Engineering and Mining Journal.*

AUSTRALIAN INDUSTRIAL POSSIBILITIES.

ALTHOUGH the Australian colonies are rich in plants yielding delicious perfumes and valuable essential oils, little or nothing has been done, so far, to practically utilise the advantages thus afforded. Systematic flower farming is still in its experimental stages, and there exists an almost untouched field of illimitable extent at the command of those possessing the necessary capital and experience in the manufacture of perfumery and essential oils, coupled with the advantage of an abundance of mutton fat, so largely used in the perfumery trade, at minimum prices. In New South Wales all the garden flowers of Europe and Asia, especially those emitting the richest fragrance, are found growing in unsurpassed luxuriance, many being obtainable nearly all the year round, their profuseness and cheapness proving how easily they are reared. Several of the essential oils obtained from the leaves of native plants are really perfumes, and their chief use is in scenting soaps and other preparations. The quantities used are small, and the plants used are wild. Among the native perfume-yielding plants which remain unutilised, are several varieties of acacia, including a few which furnish a scented wood. The *acacia farnesiana*, which is largely cultivated in Italy and the south of France, the well-known pomade, called "Cassia," being produced by placing the sweet-scented flowers in melted mutton fat or olive oil, until the latter becomes impregnated with their odour, grows plentifully in many parts of New South Wales; and another species of acacia, familiarly known as the golden wattle, is equally useful as a perfume plant; as is also the native laurel, or mock orange. Among the plants from which sweet-scented and other oils may be obtained are the native sassafras, peppermint, bloodwood, blue gum, mountain ash, white gum, ironbark, woolly butt, spotted gum, tallowwood, messmate, red gum, poplar, box, and other species of eucalyptus; ridge myrtle, tea-tree, native peppermint, dog-wood and tumeric. The essential oil of the red gum has been found a reliable remedy for chronic dysentery and diarrhœa, and that of the Moreton Bay ash makes an excellent furniture polish. The oil obtained from the native sassafras resembles, in odour, ordinary sassafras oil, with an admixture of oil of carraways, and is used for medicinal purposes. Eucalyptus oil possesses many valuable qualities, and is said to possess the power of destroying bacteria, or animal life. Its antiseptic powers have been fully recognised by the medical profession, and by many it is preferred to carbolic acid in the treatment of wounds. The leaves of the various kinds of eucalyptus are found useful in preventing or removing scale in boilers. The oil of the mountain ash, a common species of eucalyptus, dissolves gutta percha readily, and can be used, like kerosene, for lamps, having a greater illuminating power, a pleasant odour, and absence of liability to explosion. Three ounces of the oil have been found sufficient to scent eight pounds of soap at a cost of one farthing per pound. The oil obtained from the stringy bark is found to be more efficacious in many complaints than the ordinary English peppermint, being less pungent and more aromatic. The oil of the white gum has been suggested as a soap perfume. The woolly butt oil possesses the remarkable property of imparting an indelible stain to paper, but at present it has not been utilised for commercial or industrial purposes. The oil of the grey gum possesses a delicious citronelle odour, and makes an excellent soap perfume. Several varieties of the tea tree furnish an oil possessing most, if not all, of the properties of cajeput, so largely used in India as a remedy for rheumatism. Practically the number of native shrubs and trees in New South Wales capable of being utilised in the manufacture of perfumes and essential oils is without limit, and when the large quantities of either product, obtainable from comparatively small proportions of bark or leaves, is taken into consideration, it will be seen that in this direction New South Wales possesses exceptional advantages for those possessing the requisite capital and experience to establish large and remunerative productive industries. It may also be mentioned that the olive, castor oil plant, and linseed grow luxuriantly in the colony, and are easily cultivated.

The European Petroleum Company, Limited.—By a telegraphic advice received from our Baku manager to-day (Saturday), we are informed that the production for the last week was 203,734 poods, or 3,285 tons.

Parliamentary Jottings.

THE SUGAR BOUNTIES.

In the House of Lords last week,

Lord Stanmore, in moving for copies of any correspondence between Her Majesty's Government and the Government of Belgium relative to the meeting of a conference on the subject of the sugar bounties, disclaimed any premature curiosity to know the intentions of the Government. He had no desire to know the nature of the pecuniary assistance the Government proposed to advance to the sugar colonies, but what he did ask for was papers which would give them some official information whether an invitation had been given to the Government to enter into a conference on the subject, and the terms of the answer to that invitation. The noble lord was firmly convinced that no grant by the Government, however generous, would effect more than a temporary palliation of the sufferings of the people of the sugar colonies.

The Marquis of Salisbury said that no doubt the question was an important one, but he ventured to tell the noble lord at the beginning of the session that the matter had not reached a point at which it was possible for the Government to speak freely upon the question, and he was afraid that that reserve had become justified by the facts of the moment. There were two reasons why he could not give his noble friend any full reply upon the matter.

Lord Stanmore: I don't ask for it.

The Marquis of Salisbury said he understood his noble friend to ask several questions, and he imagined those questions involved a reply. However, he would merely state the reasons why he was unable to follow his noble friend through his very interesting speech with reference to the meeting of a conference on the subject of the sugar bounties. In the first place, the correspondence was not complete, but as soon as it was he would have great pleasure in laying the papers on the table of the House. With respect to remedial measures, until the Colonial Secretary had announced his proposals it was obvious he could not speak with respect to them. After that period he would be able to discuss the matter with his noble friend, either in the way of criticism or otherwise, but at present he did not feel he could go into the question.

THE ADULTERATION OF FOOD.

In the House of Commons, Mr. Kearley moved an amendment representing the urgent need of a measure for checking the widespread adulteration of food products, and expressing regret that no assurance was given that such a measure would be proposed to the House during the present session. It was extraordinary that Mr. Chaplin, the professed friend of agriculture, should withhold from agriculturists and others the benefit of the unanimous recommendations of the Select Committee. Mr. Kearley advocated the measure in the interests of consumers generally, who were now the victims of widespread fraud.

Mr. Lambert seconded the amendment, and said it was a remarkable fact that while the largest amount of margarine imported into this country came from Holland, that country was also increasing its export of butter to this country, and he had a considerable suspicion that the butter so-called was adulterated with margarine.

After a discussion the House divided, and the amendment was lost by 105 votes.

MANUFACTURE OF CORDITE.

Mr. Powell Williams, replying to Sir Bevan Edwards, said the processes by which cordite was manufactured were not secret. They were known to at least five private manufacturers, and were recently disclosed in full detail in an action in the High Court of Justice. There was nothing secret in the character of the machinery used at the ordnance factories, and similar machinery could readily be obtained from private firms. Mr. E. Anderson, who read a paper at the Civil Engineers' Institute on the subject, was the son of the Director-General. He was not in the service of the Crown, but he voluntarily sought and obtained the formal approval of the War Office to read the paper.

LEAD POISONING.

Sir M. White Ridley, in reply to Mr. Loder, said that 37 cases of lead poisoning were reported last year as occurring in factories and workshops among boys under 18, two of which were known to have ended fatally. He was not prepared at present to make any statement as to the steps which would be taken in regard to the processes in which lead poisoning was most common, but the whole subject was engaging his earnest attention.

Fire.—Last Saturday morning a fire broke out in the Brueckmann Paint Manufactory and Oil Stores, Hamburg, situated about 400 yards to the east of a large distillery. An hour later the flames spread to the neighbouring Bieber Chemical Works. Both the oil factory and the chemical works were almost completely destroyed.

PORTLAND CEMENT ADMIXTURES.

For the past three years investigations into this matter have been made by the Cement Trade Section of the London Chamber of Commerce. Some time back they instructed Messrs. Stanger and Blount to make extensive experiments with mixtures of Kentish Ragstone with Portland Cement, and also obtained valuable evidence from Mr. D. B. Butler, Mr. Gilbert Redgrave, Mr. H. K. Bamber, and Dr. Michaelis, of Berlin, and others.

At the special request of the Secretary of the London Chamber we print in full the deliberations of the Section, which after full consideration adopted the following resolution:—

"That Portland Cement be defined as a mixture of two or more suitable materials intimately and artificially mixed in the requisite proportions, and afterwards properly calcined and ground, to which nothing has been added during or after calcination, excepting that an addition not exceeding 2 per cent. of gypsum is permissible for the purpose of regulating the setting.

"That the following rule be adopted:—'That if any material whatever excepting 2 per cent. of gypsum for the purpose of regulating the setting be added to the Portland Cement Clinker during or after calcination, the article so produced shall not be sold as Portland Cement, but under some other distinctive name.'

"That the members of the Cement Trade Section of the London Chamber of Commerce, together with all manufacturers of Portland Cement in Great Britain and Ireland who are not members of that Association be invited to sign the following declaration of conformity to the above rule in respect of all Portland Cement made by them wherever manufactured. *Declaration.*—We, the undersigned, hereby agree to conform to and carry out the rule of the Cement Trade Section of the London Chamber of Commerce as set forth in a report made by the Section and adopted at a meeting held on Monday, the 10th of May, 1897:—

"'That if any material whatever excepting an amount not exceeding 2 per cent. of gypsum for the purpose of regulating the setting be added to the Portland Cement Clinker during or after calcination, the article so produced shall not be sold as Portland Cement, but under some other distinctive name.'

"And we further agree that if at any time any of the parties to this agreement shall by resolution of a majority of those present at a meeting of such parties duly and properly convened in accordance with the practice of the London Chamber of Commerce, such resolution having been duly and properly confirmed by a majority of those present at a subsequent meeting called at not less than 14 days' notice, be found to have failed to conform to and carry out the said rule, then in such case his or their name or names shall be struck off the list and notice of the same made public in such manner as shall be resolved."

The above resolution was based upon the evidence of various experts, which cannot be better summed up than in the following:—

"Ragstone is a natural form of calcium carbonate mixed with siliceous matter. It is an inert substance incapable of setting when gauged with water."

"Ragstone when mixed with Portland cement undergoes no chemical change, and does not combine with cement either in the dry state or when the mixture is gauged with water."

"Mixtures of ragstone and cement have a specific gravity lower than that of unmixed cement, and indeed correspond closely in specific gravity with that calculated from the respective specific gravities of the two materials. The specific gravity of normal ragstone may be taken as 2·70, and that of normal cement as 3·15, so that the difference between them is substantial."

"Save for minor effects caused by the slight slaking action of moisture commonly present in ordinary ragstone, the part played by ragstone mixed with cement is purely mechanical. The product obtained from the two materials is merely a mechanical mixture, and is in no sense a chemical combination. In our opinion such a mixture cannot correctly be termed Portland cement."

"Gypsum added to cement for the purpose of regulating the setting time in quantities not exceeding 2 per cent. of the weight of the cement, has no deleterious influence on the quality of the cement."

With respect to other materials, the investigators employed by the Section say that they are unable to give a general opinion as to their influence on cement when mixed with it, and that they would have to report separately as to each after long and careful investigation; and they express a strong opinion in conclusion that whatever be the effects, whether good or bad, of the admixture of any material whatever with Portland Cement Clinker after calcination, the article so produced cannot legitimately be termed Portland cement. Each of the other experts examined endorsed this view, and the Section approve and adopt it.

At a meeting of the Society of Chemical Industry, held on the 1st November, 1897, a paper was read by Messrs. Stanger & Blount upon these subjects, when, after alluding to the investigations made for the Section as to ragstone, they make the following remarks, for the

reproduction of which the Chamber is indebted to the courtesy of the Society:—

"Ragstone is not a cementitious substance, and its addition to cement is an adulteration.

"Perfectly sound cement is weakened by the addition of ragstone.

"This weakening is not fully proportional to the percentage of ragstone added, because the latter acts as a fine filling material and fills up the interstices naturally present in set cement.

"Cement which is not perfectly sound may be temporarily improved by the addition of ragstone. When the cement has become sound by aeration this improvement disappears.

"Many minor points were examined and determined in the course of the main investigation, but the most important results are embodied in the conclusions given above.

"*Additions to Cement other than Ragstone.*—One of these which particularly came within our purview in the course of our investigation for the London Chamber of Commerce is gypsum. Gypsum is largely used in Germany, and to a considerable extent in this country, in quantities not exceeding 2 per cent., and usually smaller than this, in order to lengthen the setting time of the cement. Regarding cement as a chemically finished product in the state in which it comes from the kilns, needing nothing but mechanical comminution to make it saleable, the addition of any substance to the finished clinker must be considered in strictness an adulteration. Thus gypsum becomes under this definition an adulterant. Nevertheless, it is added for a distinct and useful purpose, and in quantities smaller than 2 per cent. does not affect the cement injuriously, so far as our experiments indicate.

"The last and worst adulterant with which it is our purpose to deal is blast-furnace slag. As far as our experience goes, this most objectionable addition to Portland cement is not employed on the Thames and Medway, but in certain other districts it is used in large quantities for the preparation of a grossly sophisticated product which is fraudulently sold as Portland cement.

"We must not be understood as condemning true slag cement made by mixing granulated blast-furnace slag with slaked lime and sold under its proper title. This material is a perfectly legitimate product and has i s own uses; no one can reasonably object to its utilisation if it is not covertly substituted for Portland cement. But the addition of b a t-furnace slag to Portland cement is another matter altogether. The general practice of the manufacturers, who seek to increase their profits by the use of slag, appears to be to add to the clinker, as it goes to the crushers, as much crude blast-furnace slag as they consider can be mixed with Portland cement without risk of detection by the ordinary consumer, who buys cement in quantities so small that the cost of its analysis is too great for him to pay. The quantity added may be as much as 30 or 40 per cent., and detection is not easy or even always possible for an unskilled observer. Apart from the fraudulent character of this addition, about which no doubt can well be entertained, there arises the question of its effect on the cement. And here it is necessary to make a small digression into the chemistry of the subject."

After stating the objections to the use of slag from the chemical point of view, the paper concludes as follows:—

"All materials added to Portland cement after the clinker comes from the kilns are adulterants, with the exception of gypsum, which is a recognised addition for a specific purpose in quantities not exceeding 2 per cent. Of the two adulterants which have been specially dealt with, viz., ragstone and blast-furnace slag, the latter is by far the more objectionable, and it should be condemned and rejected by makers and users alike. In this view we believe we are supported by the great majority of engineers and manufacturers."

By order of the Cement Trade Section.

Charles Charleton, Chairman of Section (I. C. Johnson & Co., Ltd.)

Leedham White, Chairman of Special Admixtures Committee (J. B. White & Bros., Ltd.)

William Porter (Burham Brick, Lime & Cement Co., Ltd.)

The following firms have signed the declaration:—Arlesey Lime and Portland Cement Co., Ltd., Arlesey, Beds.; William Ashby & Son, Ltd., London; F. C Barron & Co., London; Booth & Co., Ltd., London; Borstal Manor Cement Co., Ltd., Borstal, Rochester; Burham Brick, Lime, and Cement Co., Ltd., London; Clitheroe Portland Cement Co., Ltd., Clitheroe, Lancs.; Dartford Portland Cement Co., Ltd., London; Dix, Green & Co., Saffron Walden; G. & T. Earle, Ltd., Hull; Formby's Cement Works Co., Ltd., London; Francis & Co., Ltd., London; Chas. Francis, Son & Co., Ltd., Isle of Wight; Gibbs & Co., Ltd., London; Globe Portland Cement and Whiting Co., Ltd., London; Hilton, Anderson, Brookes & Co., Ltd., London; Hooper & Co., Southampton; I. C. Johnson & Co., Ltd., London and Newcastle-on-Tyne; Laurence & Wimble, London; W. Lee, Son & Co., London; London Portland Cement Co., Ltd., London; McLean, Levett & Co., Ltd., London; Martin, Earle & Co., Ltd., London; New Rainham Portland Cement Co., Ltd., London; John Pattrick & Son, Dovercourt, Essex; Peters Bros., London; Pl[illegible]tland Cement Co., Ltd., London; Hon. Ashley Ponsonby, Artillery Cement Works, London; Addison Potter & Son, Newcastle-on-Tyne; Queenborough Cement Co. (Jaffray & Castle), London; A. & W T. Richardson, London; Robins & Co., Ltd., London; Rugby & Newbold Cement Co., Ltd., Rugby; Walter Scott, Ltd., Newcastle-on-Tyne; Skelsey's Adamant Co., Ltd., Hull; South Wales Portland Cement & Lime Co., Ltd., Penarth, nr. Cardiff; W. Tingey & Son, London; Tower Portland Cement Co., Ltd., London; Trechmann, Weekes & Co., Ltd., London and West Hartlepool; Tunnel Portland Cement Co., Ltd., London; West Kent Portland Cement Co., Ltd., London; Weston & Co., London; J. B. White and Bros., Ltd., London; Wouldham Cement Co., London.

EXPORTS OF PETROLEUM FROM U.S.A.

The Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for October. The total shipments were 87,843,419 gallons, compared with 92,252,141 in 1896. The total for the ten months ending October, 1897, was 820,829,840 gallons, against 774,134,392 gallons during the same period in 1896. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Oct., 1897	10,164,447
,, ,, 1896	12,253,234
NAPHTHAS.	
Total, Oct., 1897	1,291,533
,, ,, 1896	2,972,645
ILLUMINATING.	
Total, Oct., 1897	71,406,746
,, ,, 1896	72,660,290
LUBRICATING AND PARAFFIN.	
Total, Oct., 1897	4,718,657
,, ,, 1896	4,357,362
RESIDUUM.	
Total, Oct., 1897	262,036
,, ,, 1896	8,610

THE SHIP CANAL AND NEW INDUSTRIES.

We learn that the Manchester Ship Canal Company has just completed arrangements for the lease to a South Wales Company of about 25 acres of land at Ellesmere Port. The purchasers are to build upon it a very large lead-refining works, at a cost of about £100,000. The ore to be smelted at these works will be imported mainly from Australia, and we understand that some 100,000 tons will be refined annually. In addition there will of course be a large consumption of coal, coke, chemicals, etc., a considerable proportion of which will pass along the canal, as well as the pig-lead produced at the works. The Company which has taken the land has, it is stated, all the necessary capital in hand, and during the past month has inspected sites on the Dee estuary, at Widnes, and elsewhere. The respective advantages of the different sites were very carefully weighed, and the decision to build on the bank of the Ship Canal has been come to chiefly in consequence of the greater economy with which the business can be carried on there. There can be no doubt that the establishment of such an establishment at Ellesmere Port will be of very great advantage to the Ship Canal. Apart from the large traffic to and from the works themselves, the importation of lead ore in great quantities from Australia to the Ship Canal will probably result in the diversion to Manchester of other kinds of merchandise now imported through London. A steamer cannot load to her full cubic capacity with lead ore, nor can she load to her full dead weight capacity with light cargo such as frozen mutton and wool—the principal exports from the Australian colonies. But the most profitable way in which any vessel can be loaded is partly with very heavy cargo, carried at dead-weight rates, and partly with light and bulky cargo carried at measurement rates, for by such an arrangement the greatest possible tonnage, "weight and measurement," is stowed in her holds. It may, therefore, be taken for granted that ships will not come to the canal from Australia with lead ore alone; they will bring more valuable cargo also, and direct trade between Manchester and the Antipodes will at last be put on a satisfactory footing. In this connection it may be remarked that the large cold-air stores which are being built at Mode Wheel by the Colonial Consignment and Distributing Company, Limited, are approaching completion. It is expected that when they are ready for use the owners will transfer to them a considerable part of their imports. This traffic, added to that which is already brought to Manchester by the steamers of the Gulf line, and to the new traffic which will come into existence with the establishment of the lead-smelting industry at Ellesmere Port, should form a lever by which a very large share of the Australian import and export trade might be moved from the Thames to the Ship Canal.

Reports of Companies.

THE SALT UNION, LIMITED.

THE directors of the Salt Union, Limited, in their report for the year ended December 31st last, state that the tonnage of salt delivered by the Union in 1897 was 1,014,000 tons. The continued decline in the demand for manufactured salt in the chemical and allied industries, and the imposition and reimposition of fiscal duties in countries to which British salt is exported, have increased the competition amongst the salt manufacturers in the United Kingdom, rendering decrease in tonnage coincident with decrease in price. The rise in the rates of freight for sea-borne salt which took place in the autumn of 1896 continued during a great part of 1897, and this further limited the profits derivable from the sale and consignment of salt. This effect was particularly noticeable in the Indian market, which was also adversely affected during the year by war, famine and plague. The fishing on the east coast of Scotland and on various parts of the English coast was much less successful than usual, causing considerable decline in the quantity of salt used for fish-curing purposes. The directors are glad to be able to report the conclusion of the prolonged litigation which was begun by Mr. Deakin in 1891. The judgment of the Official Referee, awarding Mr. Deakin 1s. damages, was confirmed by the House of Lords in May last. In addition to the first action, Mr. Deakin had commenced in 1892 a second action, claiming continuing damages for the same and other alleged breaches. After the House of Lords' judgment an arrangement was come to with Mr. Deakin in October last, by which for a small consideration he surrendered his trading and other covenants, trade marks, brands, and the goodwill of his distribution business to the Union. The directors regret the loss of time and the trouble and expense which these actions involved, but the very large sums which Mr. Deakin claimed rendered any compromise impossible. The judgment referred to has justified the defence by the company. Messrs. J. P. Harvey and Co., salt manufacturers, Droitwich, having, without the consent of or notice to the Union, laid pipes for the conveyance of brine under roads of which the subsoil belonged to the Union, the Board applied for and obtained an injunction to restrain Messrs. Harvey from using these pipes, also an order for their removal, with costs against Messrs. Harvey. Owing to the case involving questions of ancient corporate title, the expense to be borne by the Union, apart from the taxed cost, was very heavy. The completion of the Union's plant for manufacturing soap for household and toilet purposes was

DELAYED BY THE ENGINEERING STRIKE,

but it is now in operation. The same cause has retarded the trial which is being made with an electrolytic process for the production of caustic soda and bleach, the tests of which give indications of success. A committee representing some of the largest shareholders has issued a circular advocating the removal of the head office to Liverpool, and has given notice of a resolution to be moved at the general meeting. [The report of this committee is given on this page. Ed. *C.T.J.*] The question has been raised at previous general meetings, and the Board has always declared that the decision rested with the shareholders. The Board desires to point out that for some years past the Union has had a large office at Liverpool, where all the export business of the Union from the Mersey is carried on. If the majority of the shareholders approve of the removal, the Board will proceed, in consultation with any committee appointed by the shareholders, to carry out the proposed change; and will at a special meeting of the shareholders, to be called for the purpose, submit the names of the new directors to be nominated to fill the places of the

LONDON DIRECTORS WHO WILL RETIRE,

as opportunity serves, in consequence of the alteration of the place of the Board meetings. During the year the sum of £7,888. expended on new works has been charged to the general capital account. The amount standing to the credit of the profit and loss account for salt, brine, carriage, and sundry trading was £169,795., and from other sources, £40,693., making the total amount £210,489. After deducting the cost of maintenance of plant, distributors' discounts, agency, and other charges set forth in the profit and loss account, the profits from all sources amount to £66,822.; deducting the debenture stock interest paid on July 1st, 1897, and January 1st, 1898, £54,000., and adding the amount brought forward, £12,531, there is £25,354. The directors recommend that a dividend for the year ended December 31st last be declared at the rate of 1¼ per cent. on the preference shares, which will require £12,500. That, in addition to £3,500. this year, there be further written off acquisition of distribution agencies and covenants with vendors £322., and that there be carried forward £12,531.

HARTLEPOOLS PULP AND PAPER COMPANY.

The report of the Hartlepools Pulp and Paper Company, for the half year ended January 31, 1898, shows a net profit, after allowing for depreciation, of £3,504. 12s. 3d., making, with £816. 14s. 1d. brought forward from the previous half-year, the sum of £4,321. 6s. 4d. available for disposal. Out of this the directors recommend the payment of a dividend, free of income tax, at the rate of 10 per cent. per annum, absorbing £2,500., the placing of £1,000 to the reserve fund, and the carrying forward of the balance, £821. 6s. 4d. to next account.

THE UTILISATION OF WASTE STRAW.

MR WOODHOUSE, British Vice-Consul at Nicolaiev (Southern Russia), in a recent report to the Foreign Office, says:—

I have often noticed that enormous quantities of straw lie about everywhere year after year. Some proprietors burn it as soon as it is threshed to get rid of it, as they do not consider it worth the expense of stacking, so much of it has been collected already. It seems such a pity to see it lying about idle I should think it would be worth while trying to convert it into firewood or boards for building purposes. If a cheap process for turning it into a more serviceable commodity be known, there is no room for doubt that, if put into execution, it would pay enormously. Large quantities of straw are being exported yearly from the north of Russia, where it is comparatively dear, to Sweden for paper mills. But even that is only pressed, and I understand that if it were prepared on the spot for the mills before being exported it would cost less, as a large percentage of it is worthless, on which freight has to be paid all the same.

If a cheap press were obtainable here for reducing its bulk, I am told that the sale of such an article would be considerable. The majority of proprietors do not care to heat their houses with straw, as in its ordinary condition it is full of dust and dirt, and extreme care is necessary in manipulating it, owing to its inflammability.

I hear that if it were cut and mixed with some cheap paste, such as ordinary flour paste, and pressed into blocks, it would immediately become a saleable article for fuel, which throughout the south is greatly in demand, both wood and coal having to be brought from great distances.

I should like to see the matter taken up by some British firm, and am prepared to give any information on the subject that would be found necessary.

THE SALT UNION, LTD.

REPORT OF THE SHAREHOLDERS' COMMITTEE.

ON Friday, last week, the special committee appointed at a meeting of shareholders in the Salt Union, Ltd., to which all holders of 500 shares and upwards were invited, issued a circular to all the proprietors on the subject of the future management and prospects of the company. The circular points out that "it is generally admitted that the present condition of the company's business is exceedingly unsatisfactory. The proportion of profit which it was estimated in the original prospectus would be available for reserve fund and dividend upon the ordinary share capital was £385,000 a year. This proportion actually amounted in 1890 to £191,447., but fell in 1896 to £21,292., and the announcement that at the approaching meeting the directors would only recommend a dividend of 1¼ per cent. on the preference shares clearly showed a further and larger shrinkage.

HEADQUARTERS SHOULD BE LIVERPOOL.

Under these circumstances, it was felt that some resolute effort ought to be made to grapple with the continued shrinking of the company's business, and the members of the special committee, who hold or represent upwards of £470,000. of the company's share and debenture capital, are unanimously of opinion that it is impossible to conduct the company's business to the best advantage from a London office, and that steps should be taken to remove the head office to the Mersey." The circular goes on to state that the exports of salt from the Port of London only amount to about 3,000 tons per annum, whilst those from the Mersey ports generally exceed 600,000 tons per annum. This is put forth as a strong ground for establishing the head office at Liverpool. The directors, it is stated, have expressed to the committee their willingness to submit to the shareholders the suggested change to Liverpool, without expressing any opinion one way or the other, and to ask the shareholders to give a vote on the subject; but they point out that if the head office is removed to Liverpool several of them will retire. The committee contends that it is impossible for any board to adequately grapple with the difficulties which beset the company unless the head office is sufficiently near the main manufacturing and trading centres of the company's extensive operations. A resolution will be proposed at the annual meeting for continuing the committee.

Trade Notes.

SUGAR BOUNTIES CONFERENCE SUSPENDED.—It is stated by the *Morning Post* that the Belgian Government has decided to postpone the Conference on sugar bounties for which invitations were issued to foreign Governments recently. It is said that the postponement is for an indefinite period, and that it is due to the want of unanimity on the part of beet-growing Powers. The decision is all the more important in view of the statement made in the Queen's speech in connection with the report of the West India Commission. "Communications are now in progress," it is there stated, "between my Government and the Governments principally concerned with a view to a conference on the subject, which I trust may result in the abolition of the bounties. In the meantime measures will be proposed to you for the relief of the immediate necessities of the West Indian colonies, for encouraging other industries, and for assisting those engaged in sugar cultivation to tide over the present crisis." In the circumstances, if it be a fact that the Brussels Conference has fallen through, as we have reason to believe is the case, Her Majesty's Government will probably lose no time in inviting a conference to be held in London, when, to judge from the proceedings over which Lord Pirbright so ably presided in 1888, the difficulties which have occurred in the case of Brussels are not likely to arise.

A ROYAL COMMISSION ON SEWAGE.—Although no official announcement has yet been made, several outside sources confirm our announcement of last week to the effect that the Government contemplate the appointment of a Royal Commission to investigate the bacterial treatment of sewage. It is high time that we had some authoritative pronouncement on this subject for the guidance of local bodies; and a small commission of experts furnished with power to conduct experiments would greatly help in settling a question which is at present in a most unsatisfactory condition.

THE NEW CONVEYOR CO.—The secretary of the New Conveyor Co., Ltd., Smethwick, reports that the orders and contracts for automatic conveyors, elevators, chain-belts, wheels, and mill-gearing, manufactured by this company for chemical works, collieries, mills, gasworks, ironworks, factories, and electric light stations, exceeded, during the first six *weeks* of 1898, the number received during any previous six *months* since the company was formed, ten years ago. The new contracts include complete installations of labour-saving machinery for the corporations of or firms at Newcastle-on-Tyne, Manchester, Liverpool, Birmingham, London, Glasgow, Stockton-on-Tees, Wolverhampton, Coventry, Dudley, Dublin, Leeds, and several similar plants for abroad.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are quiet at 1/4 for 90's, and 1/6½ for 50/90's. Carbolic acids keep steady without material change in values. Naphthas are in good request, solvent being scarce. Anthracene keeps firm and promises better things. Pitch does not seem to be making much progress, quotations for East Coast, f.o.b. still ranging from 18s. 6d. to 19s. 6d.

Sulphate of ammonia is becalmed. Buyers are shy and makers obdurate. Prices, however, have fallen, and even now are mainly nominal. Price at all ports may be stated at £9. 17s. 6d. though there are makers who persist in maintaining quotations at the level £10. Forward business is neglected.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the market remains steady as regards values, but business on the whole is dull. In ammonia alkali, 58%, and caustic soda, competition in the United States is becoming keener, with the usual tendency of lowering prices in that market. Quotations here remain for 58% alkali £4, f.o.r. makers' works, in bags. For caustic soda, f.o.b. Liverpool: 77%, £8. 10s.; 74%, £8. 2s. 6d.; 70%, £7. 5s.; 60%, £6. 5s., nett, 10-ton lots. Soda crystals and bicarbonate are maintained at the convention prices. Bleaching powder unaltered in quotation for prompt delivery at £5. 5s., f.o.r. makers' works, and £6. to £6. 5s., hardwoods, f.o.b. Liverpool. Chlorates dull at 3¼d. and 3⅞d. per lb. for potash and soda respectively. In sulphate of copper the market has been quiet, and prices during the week have been £16. 7s. 6d. to £16. 10s., f.o.b. For vitriol and muriatic acid the general demand is good, and prices are unaltered. Saltcake steady at 18s. bulk, f.o.r. Sulphur, £4. 10s., nett. Potash, caustic and carbonate, are in fair request and without quotable change. Prussiate of potash rather lower at 6¼d. per lb.; cyanide, 1s. 1d. per lb. Brown acetate of lime is firm at £5. 15s., c.i.f.; grey, £7. 15s., nett, in quantity. Acetic acid rather firmer. Acetate of soda, £11. 15s., ex ship. Borax, £13. per ton. White powdered arsenic slightly easier at £20. 15s., f.o.r. Garston, for best brands. Bisulphide of carbon is in good inquiry at £11. 10s. to £12. per ton. Prices rule low for aniline oil and salt, which are more freely offered. Glycerine is rather firmer, with advancing tendency. Sulphate of iron in good demand, and prices are well maintained. Sulphocyanides quiet. Zinc salts are dearer. Nitrate of soda, 7s. 6d. per cwt. Trade in chemicals, generally, continues dull.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron steady: Scotch warrants closed at 46s. 2½d.; Middlesbro', 40s. 10d. cash; and hematite, 49s. 1½d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £49. 17s. 6d. to £50. 2s. 6d. cash, and £50. 3s. 9d. to £50. 8s. 9d. three months. Tin steady: Straits closed at £64. 1s. 3d. to £64. 11s. 3d. cash, and £64. 12s. 6d. to £65. 2s. 6d. three months; Australian, £64. 15s.; English ingots, £66. 10s. Lead steady: Spanish, £12. 8s. 9d. English, £12. 2s. 6d. Silesian spelter, ordinary, £18. 2s. 6d. Nickel, 1s. 2½d. Antimony, £31. Quicksilver: First hands, £7. 2s. 6d.; second hands, £7. 2s. *Copper shares* steady: Cape, $4\frac{11}{16}$ to $4\frac{13}{16}$; Copiapo, 2⅜ to 2½; Libiola, 2⅝ to 2⅞; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, $28\frac{9}{16}$ to $28\frac{11}{16}$; Tharsis, 7¼ to 7½.

REPORT ON MANURE MATERIAL.

There is considerable activity in the market for mineral phosphates, and prices have a hardening tendency all round. The total shipments of hard rock Florida phosphates in 1897 were 347,862 tons against 314,208 tons in 1896. The stock at the mines has been much reduced, and, mining being still on the reduced scale, raisers think that the time has arrived when they may look for higher prices, at any rate for the highest grades. The disposition is to await the approaches of buyers, and something over 6d. per unit would now have to be paid for 77/80% rock in cargoes, c.i.f. to good U.K. ports. Tennessee rock, 78/80%, being less known, may however still be had at 5½d. per unit.

The development of the output of Algerian rock within the past three years has been remarkable, shipments having been

53,232 tons in 1894	153,389 tons in 1896
136,591 ,, 1895	207,176 ,, 1897

and yet the demand is such that within the past few days the price of 58/63% has been advanced to 5¼d. per unit for prompt and near shipment. Of the total quantity in 1897, Messrs. Crookston Bros., the largest raisers, shipped 98,000 tons. For South Carolina Rock 5⅛d. per unit is quoted, but 5⅜d. is probably the nearest value.

There is a fair demand for bone material, and £4. 5s. per ton is required for Bombay bone meal in all positions.

Deliveries of nitrate of soda during February have been exceptionally large, especially on the Continent, but owing to ample supplies and continued forward selling at low water mark prices, value on spot remains 7/6 per cwt. of fine quality.

There is good demand for dried blood for immediate shipment, and, owing to scarcity of supplies, up to 9s. 1½d. per unit has been paid, ex quay Liverpool, for fine River Plate.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is scarce and firm, but sales are few. Olive keep very firm, with a small business doing in Malaga at £33. 10s. per ton. Linseed is steady at 17s. to 17s. 6d. (holders) for Liverpool makes, in export casks. Cottonseed is fairly firm at 15s. to 15s. 6d. per cwt. for Liverpool refined. Castor keeps scarce, and in consequence the price keeps firm at $3\frac{5}{16}$d. per lb., both for good seconds Calcutta and first pressure French. Tallow is in good demand, and firm, with North American 20s. 9d. per cwt. Resin is steady, and moving quietly at 4s. 3d. for common, medium 4s. 4½d. to 5s. 6d., and fine 6s. to 7s. 6d. per cwt. Spirits of turpentine firm, with a moderate business doing at 24s. 9d. to 25s. cwt. Petroleum quiet: American 5d. to 6¼d., and Russian refined 4⅝d. per gallon.

CAKES.—Sellers of American Western linseed on the spot being rather more reserved, the tone of the market is a shade firmer, and sellers are asking £6. 10s. to £6. 12s. 6d., whilst Liverpool makes are very steadily held for late rates, and meet with a fair consumptive demand at £8. 5s. to £8. 10s. per ton, according to brand. Good to choice brands of American decorticated cottonseed are in slightly better request, and recent values are steadily maintained, though the extent of the business doing is only on a moderate basis at £5. 5s. to £5. 15s.,

according to quality, with a steady trade doing in Liverpool makes at £6. 5s. to £6. 10s. per ton. A very fair business was concluded in Liverpool undecorticated makes, and crushers remain quite steady in their requirements at £3. 17s. 6d. to £4. 10s., according to brand, whilst the tone of the market for Egyptian on the spot is firm, with a moderate inquiry going on, and sellers at £3. 18s. 9d. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9[illegible]s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue. 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Prices have materially advanced since last week's quotations, owing, in the instance of linseed oil, to the shortness of supply and consequent firmness of seed, and in the instance of refined cotton oil to the plentiful demand. The imports to date have been, as against the same time a year ago:—Linseed, 46,200 quarters against 61,523 qrs.; rapeseed, 16,919 qrs. against 13,678 qrs.; cottonseed, 54,858 tons against 34,026 tons; oilcake, 2,925 tons against 1,050 tons; olive oil, 639 tuns against 454 tuns; tar, 580 brls. against 130 brls. Linseed oil is firm at 15s. 1½d. spot and month naked, and 15s. 3d. sellers up to April, and to August 15s. 4½d. per cwt. naked. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton oil very firm, 13s. 3d. paid spot; May-August, 13s. 9d. buyers. Crude, spot, 12s 1½d. Filtered refined oils, £1. to £1. 5s. per ton extra; barrels, £1. 10s. and ordinary casks £1. per ton extra. Turpentine, 25s. to 25s. 3d. per cwt. Resins, all grades unchanged. Olive oils remain very short of supply, with prices almost nominal, ranging from £34 per tun. Castor oil from 3⅜d. per lb. for the quality extracted here and a trifle less for second pressure in barrels. Oleines from £16. 10s. to £19. per ton for re-distilled; 10s. extra for barrels. Olive oil soaps on the spot continue very scarce, and quoted from £16. up. Cod oils £16 to £18 per ton. Choicest Danish butter, 112s. to 115s.; Swedish, 112s. to 115s.; Dutch, 110s. to 112s.; Colonial, 90s. to 108s.

CAKES.—One of the features for notice is the expected arrival about the end of the month, from New Orleans, of 3,000 sacks of cottonseed cake. Linseed cakes are very quiet in demand, but steady in prices; 95% pure £8. to £8. 2s 6d. per ton. Oil cakes (linseed), £6. 17s. 6d.; Russians, £7. 7s. 6d. to £7 12s. 6d. Cotton cakes, best makes, £4. to £4. 1s. 3d.; seconds, £3. 17s. 6d. to £3. 18s. 9d., with quiet demand. Decorticated meal, £5. 15s. Rape cakes, Black Sea, £4. 5s. per ton.

PAINTS.—Demand continues well maintained, which is in proportion to demand of home markets rather than foreign. Prices remain unchanged.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

In connection with the Scottish bichrome manufacture (see last report), there is the further rivalry of works not long ago started in England and held outside of the combination. From these offers come (via Manchester) to Glasgow, consumers of supplies of both potash and soda, at 5 per cent. off the Scotch rates and freights paid. If this is persevered in, the Scotch combination rates will be forced to go lower. The market in sulphate of ammonia has continued very idle. Makers are slow to offer lower terms, and buyers consider it their best game to wait, so far as that is possible. Correct prompt value is £9 18s. 9d. to £10. at the momemt, though it is not quite certain that the lower figure has been accepted in any case as yet. It is on report that forward business has been done at £10., but this needs endorsement. Synthetic indigo, the new chemically produced substance aiming at the place of natural indigo, has received some attention here, but it is not thought it will have much of a chance so long as natural indigo prices keep moderate, as at present. Sulphate of copper is again dearer. Other general chemicals are unchanged.

Chief prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 5s., 60/62° £6. 5s., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3⅜d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 18s. 9d. to £10. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 15s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 6,595 bags cane unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no alteration in the chemical trade to-day either in price or position. Business continues dull. Soda crystals are £2. 12s. 6d. per ton, gross weight, locally. Bleaching powder £5. 15s to £6. per ton. Caustic, 70%, £7. 10s. per ton, and 76/77%, £8. 15s. to £9 per ton. Sulphur firm at £4. 15s. to £5 per ton.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £8. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett: silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—The coal trade is quiet, though there is a better demand for gas and household coals owing to colder weather. Manufacturing coals are rather steadier in demand, but prices show no alteration. Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities, 7s. 3d. to 7s. 6d. per ton; small steam, 3s. 3d. to 3s. 6d per ton; gas coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; coke, firm, 17s. 6d. to 21s. per ton.

New Companies.

Anglo-Colonial Chemical Co., Ltd.—CAPITAL £150,000. in £1 shares This company has been formed to acquire, own, develop, and work certain patented rights and inventions for the manufacture of artificial musk, and other specialities in chemical or pharmaceutical products The subscribers to the memorandum of association are:—A. C. Miles, Woodstock House, Woodstock, gentleman; E. G. Hill, 21, Scarsdale Villas, Kensington, gentleman; F. H. D. Man, Bromley, Kent, colonial broker; T. A. Thomson, 15, Benbow-road, Hammersmith, secretary; J. Kirkness, Thundersley, Essex, colonial broker; C. J. Bailey, 31, St. Peter's-road, South Croydon, gentleman; W. Nicholls, 8, Barnard's Inn, E.C., druggist.

The Schibaieff Petroleum Co., Ltd.—CAPITAL £750,000. in 75,000 6% cumulative preference shares of £5. each and 375,000 ordinary shares of £1. each. This company has been formed to acquire the business and assets of the Russian private limited liability company of S. M. Schibaieff and Co., at Baku, Moscow, and elsewhere, by the purchase of all the shares. The properties have been inspected by Mr. B. Redwood, the petroleum expert. They consist of refineries, installations, storage and distribution facilities at various towns in Russia. The company's oil lands have, it is claimed, yielded over 14,000,000 poods of oil in nine months of the current year, and are adjacent to the oil-producing lands of the Rothschilds and the Russian Petroleum Company, near Baku. The vendors have fixed the purchase price of the 2,500 shares representing the entire nominal capital of S. M. Schibaieff & Co. at the sum of £640,000., payable as follows: £620,000. in cash and £20,000. in fully-paid ordinary shares. There have already been subscribed by the directors and their friends £118,000. ordinary and £77,000 of preference shares, and the balance is now offered to the public, less the 20,000 ordinary shares taken by the vendors.

Cripple Creek Ore Reduction Works, Ltd.—CAPITAL £150,000. in £1. shares. This company has been formed to carry on the business of smelters, metallurgists, miners, mine owners, financiers, capitalists

concessionaries, merchants, bankers, store-keepers, explorers, prospectors, engineers, etc. The subscribers to the memorandum of association are:—W. G. Blakemine, 57, Moorgate-street, E.C., chartered accountant; A. J. Caine, 21 and 22, Copthall House, E.C., merchant; J. Halcrow, 6, Great Winchester-street, E.C., accountant; W. Smith, 6, Great Winchester-street, E.C., secretary; F. W. Townend, Westbury-road, Brentwood, gentleman; F. Churchyard, 16a, Tokenhouse Yard, E.C., stockbroker; H. C. Grant, 150, Amesbury Avenue, Streatham Hill, S.W., gentleman.

Manchester Acetylene Gas and Carbide Co., Ltd.—Capital £40,000, in £10 shares. This company has been formed to acquire and carry on the business of gas engineers, makers of gas plant, and dealers in chemicals, carried on by A. Kay, A. W. McCullum, and J. B. Crompton, at St. Simon-street, Salford, Lancashire, as "The Manchester Acetylene Gas and Carbide Co.," and to adopt a certain agreement. The subscribers to the memorandum of association are:—A. Ormrod, Shipton Brick Works, Bolton, manufacturer; R. G. Lawson, 18, Tib-lane, Manchester, solicitor; J. W. Pollitt, 7, Pall Mall, Manchester, chartered accountant; T. W. Mason, 32, Chorley New-road, Bolton, gentleman; J. Ainscow, 126, Market-street, Manchester, manufacturer; H. Bowman, Belmont, St. Anne's-on-the-Sea, engineer; W. H. Bailey, Sale Hall, Cheshire, engineer.

British Columbia Pulp and Paper Mills, Ltd.—Capital £50,000 in £1 shares. This company has been formed to carry on the business of manufacturers of paper, wood pulp, wood meal; also timber growers and merchants. The subscribers to the memorandum of association are:—W. Workman, 75, Bothwell-street, Glasgow, shipowner; G. Smith, 75, Bothwell-street, Glasgow, shipowner; R. Workman, 75, Bothwell-street, Glasgow, clerk; J. Boyd, Shettleton Ironworks, Glasgow, ironfounder; R. Findlay, 102, Hope-street, Glasgow, stockbroker; R. Clement Boyd, 48, West Regent-street, Glasgow, writer; R. Mackay, 48, West Regent-street, Glasgow, writer. Registered office, 48, West Regent-street, Glasgow.

Gazette Notices.

PARTNERSHIPS DISSOLVED.

E. Wood and W. H. Simm, oil and tallow merchants and refiners, Blackburn under the style of Simm and Wood.

W. G. Eagle and F. Eagle, tallow chandlers and drysalters, Liverpool, under the style of F. and W. G. Eagle.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending February 12th.

Acetic Acid—
Holland, 20 pks. A. & M. Zimmermann
" 70 R. W. Greeff & Co.
" 70 T. H. Lee

Acetone—
Germany, £120 Thames S. T. & L. Co., Ld.
France, 280 E. J. Catlin

Alum—
Holland, 171 pks. Ohlenschlager Brs.

Ammonia—
Holland, £50 H. Lore 12

Antimony Ore—
Bastia, 50 t. J. Bamber

Arsenic—
Portugal, £160 Coverley & Westray
Belgium, 400 Taylor Brs.

Asbestos—
Italy, £60 Imperial Asbestos Co.
" 550 Cape Asbestos Co.
Germany, 18 Craven & Co.
U. States, 250 Deering & Robottom
France, 9 Gerard Gondrum

Barium Chloride—
Germany, £60 Petri Brs.

Barytes—
Belgium, 189 pks. W. Harrison & Co.
Holland, 115 "
" 24 J. L. Lyon & Co.
Belgium, 158 "

Bleaching Powder—
Holland, £146 J. M. Steel & Co.

Borate of Lime—
Turkey, 500 t. Howard & Son

Bromine—
Germany, 40 pks. A. & M. Zimmermann

Caoutchouc—
France, 22 c. H. Johnson & Sons
Straits, 64 W. Pope & Co.
Zanzibar, 10 L. & I. D. Jt. Co.
Germany, 40 Lewis & Peat
Straits, 9 Butler's Wf., Ld.
" 45 Anderson, Weber & Co.
" 276 E. Bousteaul & Co.

Carbolic Acid—
Germany, 25 pks. J. G. Back

Castor Oil—
France, 30 brls. Beresford & Co.
" 7 52 pks. F. Boehm
Belgium, 25 C. & E. Morton
" 20 Anderson, Weber & Co.
France, 83 Mordaunt Bros.

Caustic Potash—
Germany, 3 c. Burgoyne & Co.

Chemicals (*otherwise undescribed*)
Germany, £70 L. & I. D. Jt. Co.
" 500 A. & M. Zimmermann
" 23 Phillipps & Graves
Holland, 25 "
Belgium, 80 T. Palmer
Holland, 600 T. H. Lee
Germany, 36 Butler's Wf., Ld.
" 165 H. Lambert
Belgium, 115 T. H. Lee
France, 160 B. & F. Wf. Co.
Germany, 30 Elkan & Co.
" 650 T. H. Lee

Citric Acid—
Italy, 20 pks. J. Puddy & Co.
Germany, 18 Butler's Wf., Ld.

Cream of Tartar—
Italy, 21 pks. B. Jacob & Sons
Holland, 42 Kirkpatrick Barr, & Co.
France, 5 J. W. Cook & Co.,
" 10 W. C. Bacon & Co.
Spain, 20 "
" 3 B. & F. Wf. Co.

Dyestuffs—

Aniline
Belgium, 8 pks. W. Gerson & Co.
Holland, 5 Brooke, Simpson & Co.

Argols
Italy, 327 pks. B. Jacob & Sons
France, 510 "
Italy, 99 Thames S. T. & L. Co., Ltd.

Cochineal
Canaries, 12 pks. W. M. Smith & Sons

Cutch
Rangoon, 100 pks. L. & I. D. Jt. Co.

Extracts
Denmark, 90 cks. Bailey & Leetham, Ld.
Germany, 20 pks. Fuerst Brs.

Fustic
B. Honduras, 2 t. W. Shelcott

Gambier
Belgium, 130 pks. Hoare, Wilson & Co.
Straits, 875 G. R. Haller & Co.
" 226 J. Greig
" 530 Beresford & Co.

Indigo
Holland, 1 chts. J. Barber & Co.
E. Indies, 10 H. Johnson & Sons
" 13 P. Macfadyen & Co.
" 29 J. Kenyon & Sons
Belgium, 4 cs. John Cockerill Line
E. Indies, 41 chts. Parsons & Keith
" 10 Union Ltge. Co.
" 20 H. W. Jewesbury & Co.
" 18 Croysdale & Co.
" 13 R. Von Glehn & Sons
" 10 F. Huth & Co.
" 24 Hall & Wilson
" 9 L. Achard & Co.
" 102 L. & I. D. Jt. Co.
" 7 Lewis & Peat

Logwood
B. Honduras, 191 t. W. Shelcott

Saffron
Spain, 3 pks. J. Barber & Co.
" 1 C. Brumlen & Co.
" 1 Richardson, Spence & Co.

Shumac
Italy, 200 pks. L. & N. W. Ry. Co.
" 1,000 J. Kitchin, Ld.
" 50 Galbraith, Pembroke & Co.
" 100 H. Johnson & Sons
" 50 Whittard, Crisp & Co.

Tanners' Bark
Italy, 2 t. J. Norrenberg & Co

Valonia
A. Turkey, 100 t. A. Laming & Co.

Farina—
Germany, 100 bgs. Hicks, Nash & Co.
Holland, 150 pks. J. Knill & Co.
Germany, 200 R. Bennett & Co.

Glucose—
France, 900 pks. 200 c. Trier, Meyer & Co.
Germany, 10 88 M. D. Co.
" 200 200 Baxter & Hoare
U. States, 100 600 E. & T. Pink
" 600 3,600 Hall & Co.
" 100 606 L. & T. Light C. & D. Co
" 1,649 4,649 R. G. Hall & Co.

Glue—
France, £50 B. & F. Wf. Co.
Holland, 9 W. H. Carey & Sons
Germany, 14 The Jordan Co.
Belgium, 571 J. Barber & Co.
Holland, 27 Phillipps & Graves
Norway, 12 W. E. Bott & Co.
Germany, 27 J. Kitchin, Ld.
U. States, 102 B. Gallaway
France, 125 J. Harrison
U. States, 140 Prop. Hay's Wf.

Infusorial Earth—
Bremen, 60 t. A. Haacke & Co.

Manganese—
Germany, 12 t. C. Hoff & Co.

Manure—
Belgium, 50 t. J. G. Back
France, 10 Anglo-Contl. G. Wks.

Methyl Alcohol—
Sweden, 8 dms. Lister & Biggs
France, 10 cks E. J. Catlin

Mica—
Calcutta, £90 L. & I. D. Jt. Co.
" 30 Prop. Hay's Wf.
Ceylon, 5 Caesar, Hyde, & Co.
U. States, 20 W. Fenn

Molasses—
U. States, 200 brls. C. S. Anderson
" 1,122 c.
B. Guiana, 100 bgs. C. M. and C. Woodhouse
" 242 c.

Naphtha—
Germany, 10 brls. H. Lambert
" 10 W. Izard
France, 20 E. J. Catlin

Ochre—
Holland, 11 pks. Phillipps & Graves
France, 37 cks. W. Harrison & Co.

Oxalic Acid—
Holland, 15 pks. R. W. Greeff & Co.
Germany, 2 Butler's Wf., L.

Phosphate Rock—
France, 130 t. Anglo-Contl. Guano Works
Belgium, 50 C. A. and H. Nichols

Phosphorus—
Belgium, £74 J. M. Steel & Co

Pitch—
N. Russia, 100 brls. Fellows, Morton, & Co.
France, 100 "
Holland, 3 Poth, Hille, & Co.

Plumbago—
Straits, 60 cks G. R. Haller & Co.
Ceylon, 26 Clyde Shipping Co., Ltd.
" 242 Morgan Crucible Co.
" 66 R. Waters
Straits, 116 Marshall & French

Potash—
Canada, 159 c. Charles & Fox

Potassium Carbonate—
France, 100 c. W. E. Cole
" 100 Charles & Fox
Holland, 100 Petri Brs.
Germany, 2 J. Norrenberg & Co.
France, 50 J. A. Reid

Potassium Chloride—
Germany, £80 F. W. Berk & Co.

Potassium Oxalate—
Holland, £20 R. W. Greeff & Co.

Potassium Oxymuriate—
Sweden, £35 G. Boor & Co.

Potassium Sulphate—
France, 30 pks. Charles & Fox

Pumice Stone—
Messina, 7 t. Blundell, Spence, & Co.
" 1 J. Barton
" 2 Tudors, Marsh, & Co.

Quicksilver—
Italy, 500 btls. L. & I. D. Jt. Co.
Spain, 5,000 flsks. N. M. Rothschild & Sons

Rosin—
U. States 3,200 brls. Prod. Brokers' Co

Saltpetre—
Germany, 20 cks. J. Hall & Son

Sodium Acetate—
France, 110 c. Burnett Brs. & Sons

Sodium Prussiate—
Belgium, 130 c. Blagden, Waugh, & Co.

Sodium Sulphate—
Germany, £18 H. Wallace & Co.

Starch—
U. States, 2 brls. Lunham & Moore
Germany, 70 cs. Phillipps & Graves
Holland, 1,338 Little & Johnston
" 145 Phillipps & Graves
Belgium, 50 Becker & Wagner
" 350 E. & T. Pink

,, 260 J. Barber & Co.
,, 1,016 F. Claydon & Co.
,, 20 Leach & Co.
,, 120 J. Harrison
,, 576 T. H. Lee
Germany, 300 Horne & Co.
U. States, 2,700 bgs. Union Ltge. Co., Ltd

Stearine—
Belgium, 125 bgs. H. Hill & Sons
,, 9 cks. ,,

Sulphide of Arsenic—
France, £30 Hyslop & Symonds

Sulphur—
Italy, 1 t. City Coml. Wf., Ltd.
,, 900 A. F. White & Co.
,, 200 Ferd. Baller & Co.
,, 500 Fuerst Brs.

Sulphuric Acid—
Germany, 37 pks. H. Lambert

Talc—
Calcutta, £10 Carter, Paterson, & Co.
France, 55 Brasch & Rothenstein
,, 40 Blackwell & Co.

Talc and Mica—
France, £50 B. & F. Wf. Co.

Tartaric Acid—
Italy, 4 pks. Howard & Son
Holland, 71 B. & F. Wf. Co.
,, 2 F. C. Devon & Co.

Tartars—
Italy, £573 Howard & Son

Varnish—
U. States, 53 pks. J. R Francis & Co.

Waste Salt—
Germany, 50 t. Greeff & Co.

White Lead—
Germany, 34 pks. W. A. Rose & Co.
France, 17 J. L Lyon & Co.
Germany, 14 H. Lambert
Holland, 20 Burrell & Co.
Austria, 22 T. Palmer
Germany, 39 Randall Brs.
Holland, 33 Perkins & Homer
Belgium, 12 J. L. Lyon & Co.
,, 49 T. & W. Farmiloe, Ltd.

Wood Pulp—
Sweden, 40 pks. Thames S. T. & L. Co., Ltd.
,, 448 W. G. Taylor & Co.
,, 500 Tough & Henderson
Canada, 522 Allan Brs. & Co
Norway, 57 M. Dk. Co.
Belgium, 1,656 P. Heydemann
Holland, 12 H. Lambert
Sweden, 170 J. W. Cook & Co.
,, 6 G. Barker
U. States, 2,031 Henderson, Craig, & Co.
Canada, 150 Furness, Withy, & Co.
Belgium, 615 W. G. Taylor & Co.
Holland, 26 ,,
,, 5 J. Owen
Sweden, 153 M. Dk. Co.
,, 320 Alsing & Co., Ltd.
Holland, 31 T. H. Lee

Zinc Oxide—
Holland, 100 brls. M. Ashby, Ltd.
,, 12 W. H. Carey & Sons
France, 10 C. S. Lovell
U. States, 200 pks. M. Ashby, Ltd.

Zinc Sulphate—
Germany, £62 Burgoyne & Co.

LIVERPOOL.

Week ending February 10th.

Alkali—
Rotterdam 2 cks.

Barytes—
Rotterdam, 12 cks.
Antwerp, 52 360 bgs.

Bone Meal—
Bombay, 6,252 bgs.

Borax—
Valparaiso, 1,240 sks.

Chemicals *(otherwise undescribed)*
Hamburg, 2 cs.

Colours—
Rotterdam, 50 cks.
Ghent. 6 brls J. T. Fletcher & Co.

Cottonseed Oil—
Savannah, 250 brls.

Cream of Tartar—
Oporto, 3 cks.
Bordeaux, 36

Dyestuffs—
Cutch
Rangoon, 1,045 bxs.
Extracts
New York, 20 brls. A. Condy
,, 170
Logwood
St. Marc, Hayti, 550
Myrabolams
Bombay, 1 998 bgs. E. D. Sassoon & Co.
,, 1,571 D. Sassoon & Co.
,, 100
Orchella
Valparaiso, 20 bls. Frankfurten & Lieberman
Shumac
Barcelona, 100 sks.
Valonia
Patras, 455 bgs.

Glucose—
Baltimore, 1,100 brls.
New York, 170

Glue—
Fiume, 100 bls.
Rotterdam, 2 cks. 232 bgs.
Bremen, 4

Infusorial Earth—
Bremen, 176 bgs.

Iodine—
Valparaiso, 4 brls. A. Gibbs, Sons & Co.
,, 32

Lamp Black—
Boston, 100 brls. G. Warren & Co

Limestone—
Antwerp, 1 cs.

Lithopone—
Rotterdam, 60 cks.

Manganese Ore—
Poti, 2,350 t.
Visagapatam, 1,300 Darwen & Mostyn Iron Co.

Manure—
Bombay, 295 bgs.

Methyl Alcohol—
Antwerp. 5 dms.

Mineral White—
Fiume, 200 bgs.

Naphtha—
New York, 1,000 brls.

Paint—
Boston, 45 cs.

Paraffin Scale—
Baltimore, 400 brls.

Phosphate Rock—
Brunswick, 1,045 t. 10 c.

Potash—
Stettin, 25 cks. Sachse & Klemm

Pyrites—
Huelva, 1,995 t. Matheson & Co.
,, 1,402

Rosin—
Savannah, 4,702 brls.
Charleston, 427

Saltpetre—
Hamburg, 4 cks.

Soap—
New York, 2 cs.
Bari, 22
Rotterdam, 8
Norfolk, Va., 1,032 brls.
Antwerp, 300
Boston, 8

Soapstone—
Bordeaux, 100 bgs. Geo. G. Blackwell, Sons & Co.
Genoa, 100

Sodium Sulphide—
Boston, 6 brls. G. Warren & Co.

Starch—
Rotterdam, 100 cs.
Baltimore, 100 bgs.
Bremen, 20 cs
Antwerp, 40 3 brls.
N port News, 400 sks.

Stearine—
Antwerp, 13 bgs. J. T. Fletcher & Co.

Tallow—
New York, 26 brls. J. W. De Silva
,, 400 tcs. 100 hds.
B. Ayres, 1,769 cks.
Baltimore, 300 tcs.
Boston, 65 O. Monsted
,, 133 brls.

Tannic Acid—
Rotterdam, 2 cks.

Tartaric Acid—
Messina, 40 cks.
Rotterdam, 2

Treacle—
Bordeaux, 30 cs.

Ultramarine—
Rotterdam. 23 cks.

Waste Salt—
Hamburg, 711 bgs.

Wood Pulp—
Boston, 1,290 rolls
Drammen 5,268 bls. H. Tyrer & Co.
Boston, 672 rolls Thin & Sinclair
Gothenburg 170 bls.

Zinc Oxide—
Antwerp, 123 brls.

Zinc White—
Rotterdam, 45 cks.

MANCHESTER.

Week ending February 12th.

Acetate of Lime—
New York, 1,699 bgs.

Alizarine—
Rotterdam, 48 cks.

Aniline Colours—
Hamburg, 46 cks.

Aniline Salts—
Rotterdam. 19 cks.

Antimony Salts—
Hamburg, 1 ck. 2 cs.

Barium Chloride—
Hamburg, 32 cs.

Barytes—
Rotterdam, 100 bgs.
Antwerp, 220

Caoutchouc—
Treport, 14 cks.

Caustic Potash—
Antwerp. 20 dms.

Chemicals *(otherwise undescribed)*
Treport, 2 cks.
Rotterdam, 19

Colours—
Rotterdam, 1 bx. 32 cs.
Hamburg, 6 cks.
Antwerp, 5

Cream of Tartar—
Rotterdam, 40 kgs.

Farina—
Stettin, 500 bgs. Browne, Geveke, & Co.
,, 600
Hamburg, 71

Glucose—
Stettin, 1,000 bgs. 200 cks.

Glue—
Treport, 7 cks. 34 bls.
Rotterdam, 2 40 bgs.
Hamburg, 4 20

Lead Acetate—
Hamburg, 4 cks.

Limestone—
Antwerp, 13 cs.

Lithopone—
Stettin, 67 cks.

Oxalic Acid—
Stettin, 15 cks.
Rotterdam, 15

Paint—
Hamburg, qty.

Paraffin Scale—
New York, 440 brls. 1,046 bls.

Phosphorus—
New York, 10 cs.

Potash—
Treport, 20 dms.

Potassium Chloride—
Hamburg, 45 dms.
Gothenburg, 24 cks. 60 kgs.

Potassium Prussiate—
Rotterdam, 3 cks.

Pyrites—
Huelva, 1,219 t. W. H. Stott & Co.

Soap—
Treport, 5 cks.

Sodium Acetate—
Treport, 90 cks.

Sodium Nitrate—
Rotterdam, 8 cks.

Sodium Phosphate—
Antwerp, 6 cks.

Starch—
New York, 2,300 bgs.
Hamburg, 1,36 cs.
Rotterdam, 248
Antwerp, 564

Stearine—
Antwerp, 14 bgs.

Tannic Acid—
Hamburg, 4 cs.

Tartaric Acid—
Rotterdam, 12 cks.

Turpentine—
Alexandria, 24 brls.

Ultramarine—
Rotterdam, 4 cks.

Wood Pulp—
Bucksport, 53,530 bdls.
Gothenburg, 2,110 bls. 1 pk.
Rotterdam, 240
New York, 56 bdls.

Zinc Ashes—
Stettin, 15 cks.
Antwerp, 5 brls.

Zinc Oxide—
Antwerp, 40 brls.
New York, 100
Rotterdam, 40

HULL.

Week ending February 12th.

Acetic Acid—
Rotterdam, 35 pks. Hutchinson & Son

Acids—
Leghorn, 12 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 1 W. & C. L. Ringrose

Alum—
Hamburg, 13 cks. Wilson, Sons, & Co., Ld.

Ammonia—
New York, 50 cyldrs.

Antimony—
Dunkirk, 2 cks. Wilson, Sons, & Co., Ld.

Arsenic—
Hamburg, 10 cks. Wilson, Sons, & Co., Ld.

Barytes—
Bremen, 400 bgs.
Hamburg, 20 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 179 Hutchinson & Son
Antwerp, 35 Wilson, Sons, & Co., Ld.

Bone Dust—
Antwerp, 10 bgs. Wilson, Sons, & Co., Ld.

Bone Meal—
Bombay, 4,000 bgs.
Kurrachee, 150

Camphor—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Hamburg, 23 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 6 Hutchinson & Son
Rouen, 8
Bremen, 6 cs. Veltmann & Co.
Hamburg, 1 ck. Lofthouse & Saltmer
Antwerp, 298 dms. Wilson Sons, & Co., Ld
Danzig, 26 cks.

Cod Oil—
Drontheim, 3 brls. Wilson, Sons, & Co., Ld.
Bergen, 8 ,,

Colours—
Hamburg, cs. Bailey & Leetham, Ld.
1 ck.
Antwerp, { 100 bgs. 148 cks. ,,
Ghent, 11 brls. Wilson, Sons, & Co., Ld.
Bremen, 12 cks.
Danzig, 3 ,,
Rotterdam, 36 Hutchinson & Son
1 brl. 2 pks.
,, 1 ck. Wilson, Sons, & Co., Ld.
,, 77 W. & C. L. Ringrose
2 brls. 95 pks.

Cottonseed Oil—
New York, 327 brls. Wilson, Sons, & Co., Ld.

Cream of Tartar—
Rotterdam, 6 cks. W. & C. L. Ringrose

Cryolite—
Copenhagen, 1 ck. Wilson, Sons, & Co., Ld

Dyestuffs—
Alizarine
Rotterdam, 33 brls. 8 pks. 1 cs. W. & C. L. Ringrose
Gambier
Hamburg, 240 pks. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 2,001 bgs.
Farina—
Hamburg, 500 bgs. Wilson, Sons, & Co., Ld.
Glue—
Rouen, 26 cks. Rawson & Robinson
Christiania, 20 bgs. Wilson, Sons, & Co., Ld.
Guano—
Hamburg, 1,005 bgs.
Ochre—
Marseilles, 74 cks.
Rouen, 24 Rawson & Robinson
Antwerp, 14 Wilson, Sons & Co., Ld.
Paint—
Marseilles, 16 cs. Wilson, Sons & Co., Ld.
Rouen, 2 dms. R. T. Bruce & Co.
Phosphate—
Ghent, 160 t.
Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.
Rotterdam, 10 cks. W. & C. L. Ringrose
Potash—
Antwerp, 10 cks. Wilson, Sons, & Co., Ld.
Dunkirk, 44 "
Potassium Cyanide—
Hamburg, 5 cs. Bailey & Leetham, Ld.
Saltpetre—
Hamburg, 10 kgs. 12 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 135 "
Hamburg, 2 cks. Lofthouse & Saltmer
" 1
Soap—
Copenhagen, 3 cs. Wilson, Sons, & Co., Ld.
Marseilles, 22 dms. "
Soda—
Antwerp, 3 cks. 100 bgs. Wilson, Sons, & Co., Ld.
Ghent, 120 "
Starch—
Amsterdam, 80 cs. Hutchinson & Son
Antwerp, 150 Wilson, Sons, & Co., Ld.
Bremen, 1,312 pks. 2,209 cs. Veltmann & Co.
New York, 250 bgs.
Ghent, 300 cs. Wilson, Sons, & Co., Ld.
Stearine—
Aalesund, 1 ck. Wilson, Sons, & Co., Ld.
Rotterdam, 1 cs. Hutchinson & Son
Tallow—
New York, 60 tcs. Wilson, Sons, & Co., Ld.
Hamburg, 120 4 cks. "
Dunkirk, 107 "
Tar—
Amsterdam, 2 cks. W. & C. L. Ringrose
Marseilles, 23
Treacle—
New York, 1,550 brls. Wilson, Sons, & Co., Ld.
Hamburg, 4 cks. Bailey & Leetham, Ld.

Turpentine—
Libau, 6 brls. Wilson, Sons, & Co., Ld.
" 50
Varnish—
Antwerp, 5 brls. Wilson, Sons, & Co., Ld.
White Lead—
Rotterdam, 10 cks. Hutchinson & Son
Amsterdam, 70 W. & C. L. Ringrose
Wood Pulp—
Drontheim, 3,520 bls. Wilson, Sons, & Co., Ld.
Hango, 298 J. Good & Sons
Zinc Ashes—
Amsterdam, 7 cks. Hutchinson & Son

GLASGOW.

Week ending February 17th.

Alkali—
Rotterdam, 17 cks J. Rankine & Son
Alumina—
Rotterdam, 31 cks. J. Rankine & Son
Barium Chloride—
Rotterdam, 4 cks. J. Rankine & Son
Barytes—
Rotterdam, 43 cks. J. Rankine & Son
Chemicals (*otherwise undescribed*)
Rotterdam, 3 cs. J. Rankine & Son
Colours—
Hamburg, 2 cks.
Cottonseed Oil—
New York, 250 brls.
Baltimore, 100 pks.
Dextrine—
Hamburg, 100 bgs.
Dyestuffs—
Alizarine
Rotterdam, 6 cks J. Rankine & Son
140 brls. 3 bxs. "
Aniline
Amsterdam, 1 ck. J. Rankine & Son
Rotterdam, 12 68 brls. 13 cs. 10 bxs. "
Hamburg, 1 6 cks.
Argols
Bordeaux, 47 cks.
Extracts
New York, 12 brls.
Indigo
Rotterdam, 17 brls. J. Rankine & Son
Glucose—
Philadelphia, 400 brls.
New York, 100 Waddell & Bryson
" 250
Baltimore, 100
Glue—
Rouen, 51 pks.
Hamburg, 8 cks.
Christiania, 1 cs.
Infusorial Earth—
Hamburg, 270 bgs.
Lead Acetate—
Hamburg, 43 cks.
Ochre—
Rouen, 37 cks.
Rotterdam, 2 cs. J. Rankine & Son
Baltimore, 840 brls.
Potash—
Rotterdam, 50 cks. J. Rankine & Son
Hamburg, 40 dms.
Pyrites—
Huelva, 3,552 t. Tharsis Sulphur & Copper Co., Ld.
Soap—
Philadelphia 650 bxs. 25 crts.
New York, 41

Soda—
Hamburg, 30 cks.
Sodium Acetate—
Rouen, 19 cks.
Sodium Sulphate—
Rotterdam, 1 brl. J. Rankine & Son
Starch—
New York, 800 bxs. 100 bgs.
Portland, Me., 20
Stearine—
Amsterdam, 186 bgs. J. Rankine & Son
Tallow—
Baltimore, 186 brls.
New York, 100 trcs.
Tartar—
Bordeaux, 23 cks.
Treacle—
Philadelphia, 256 brls.
New York, 100
Ultramarine—
Rotterdam, 1 cs. J. Rankine & Son
Varnish—
New York, 521 brls.
White Lead—
Rotterdam, 50 cks. 44 pks. J. Rankine & Son
Wood Pulp—
Philadelphia, 498 bls.
Hommelvik, 80
St. John, N.B. 2,392
Christiania, 1,246
Christiansand, 490
Zinc Oxide—
New York, 50 bals.
Zinc Sulphate—
Rotterdam, 10 brls. J. Rankine & Son
Zinc White—
Rotterdam, 75 pks. J. Rankine & Son

TYNE.

Week ending February 12th.

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.
Arsenic—
Antwerp, 12 brls. Tyne S. S. Co.
Barytes—
Rotterdam, 300 bgs. Tyne S. S. Co.
Cod Oil—
Drontheim, 5 brls. P. H. Matthiessen & Co.
Bergen, 10 "
Colours—
Rotterdam, 5 brls. Tyne S. S. Co.
Hamburg, 1 cs. "
Limestone—
Antwerp, 2 crts. Tyne S. S. Co.
Potash—
Hamburg, 12 dms. Tyne S. S. Co.
Pyrites—
Huelva, 1,454 t. Tharsis Sulphur & Copper Co.
Quicksilver—
Copenhagen, 100 cylds.
Salt—
Hamburg, 102 bgs. Tyne S. S. Co.
Saltpetre—
Hamburg, 20 kgs Tyne S. S. Co.
Soap—
Rotterdam, 2 cs. Tyne S. S. Co.
Starch—
Rotterdam, 60 cs. Tyne S. S. Co.
Wood Pulp—
Gothenburg, 27 pks.
Christiania, 1,061 bls.
Zinc Oxide—
Antwerp, 8 brls. Tyne S. S. Co.
Zinc Sulphate—
Gothenburg, 20 bgs.

GOOLE.

Week ending February 9th.

Acetic Acid—
Rotterdam, 38 cks.
Alizarine—
Rotterdam, 35 brls. 1 cs.
Alkali—
Calais, 3 cks.
Antimony—
Boulogne, 1 ck.
Barytes—
Rotterdam, 14 cks.
Caoutchouc—
Boulogne, 4 cks.
Chemicals (*otherwise undescribed*)
Hamburg, 3 cs.
Colours—
Antwerp, 1 cs.
Hamburg, 24 cks.
Dyestuffs (*otherwise undescribed*)
Boulogne, 8 cks. 2 cs. 64 pks.
Rotterdam, 357 105 1 dm.
Farina—
Hamburg, 200 bgs.
Glucose—
Calais, 100 bgs.
Glue—
Hamburg, 10 cks.
Lead Acetate—
Hamburg, 15 cks.
Logwood—
Belize, 522 t.
Madder—
Rotterdam, 2 cks.
Nickel Oxide—
Rotterdam, 1 cs.
Plumbago—
Boulogne, 1 ck.
Potash—
Dunkirk, 2 cks. 40 dms.
Rotterdam, 18
Saltpetre—
Antwerp, 85 bgs.
Hamburg, 40 kgs.
Rotterdam, 100 bgs.
Sodium Nitrate—
Dunkirk, 367 bgs.
Waste Salt—
Hamburg, 500 bgs.

GRIMSBY.

Week ending February 12th.

Albumen—
Hamburg, 10 cks.
Caoutchouc—
Rotterdam, 1 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 1 ck. 4 cs.
Colours—
Antwerp, 30 cks. 5 pks.
Hamburg, 51 9 cs. 130
Rotterdam, 17
Dyestuffs (*otherwise undescribed*)
Dieppe, 26 cks.
Farina—
Hamburg, 100 bgs
Lamp Black—
Helsingborg, 6 cks. 2 cs.
Hamburg, 11
Pitch—
Hamburg, 80 cks.
Plumbago—
Hamburg, 1 ck.
Soap—
Hamburg, 3 cs.
Malmo, 20
Varnish—
Antwerp, 1 ck.
Waste Salt—
Hamburg, 500 bgs.
Zinc Ashes—
Antwerp, 16 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 16th.

Acids—
Cape Town, 43 dms. £10
Pt. Elizabeth, 4 cks. 16

Alkali—
Cleveland Bay, 1 t. 15 c. £16
Hamburg, 1 18 38
Ammonia (Liquid)—
Antwerp, 9 cs. £35

Ammonium Carbonate—
Sydney, 20 cs. £30
Paris, 1 t. 9 c. 38
Hiogo, 2 10 63
Rouen, 5 10 135

Ammonium Chloride—
Christiania, 2 t. 10 c. £16
Cologne, 18 cks. 89
Galatz, 1 29
Busreh, 5 brls. 15

Ammonium Sulphate—
Havre, 68 t. £680
Cullera, 150 1,500
Dunkirk, 303 5 c. 3 0 10
Hamburg, 50 500
Rotterdam, 80 8 805
Chinde, 5 59
Ostend, 380 3,800

Anhydrous Ammonia—
Durban, 3 cs. £20
Cologne, 46 cyldrs. 113

Arsenic—
Yokohama, 1 t. £23

Boracic Acid—
Brisbane, 1 t. £29

Borax—
Cologne 1 t. 13 c. £27
Hamburg, 1 17
Auckland, 3 45
Piræus, 1 11 25
Rotterdam, 60 cks. 153

Carbolic Acid—
Penang, 12 pks. £6
Yokohama, 100 dms. 327

Carbonic Acid Gas—
Antwerp, 9 tubes £50
Cape Town, 70 100

Caustic Soda—
Delagoa Bay, 17 c. £15
E London, 17 15
Pt. Elizabeth, 0 5
Napier, 5 t. 37
Fremantle, 11 23

Chemicals *(otherwise undescribed)*
Dunedin, 1 cs. £12
Oporto, 4 cks. 22
Cette, 30 52
Madras, 6 pks. 26
Shanghai, 5 12
E. London, 2 cs. 26
Cleveland Bay, 21 20
Christchurch, 21 55
Yokohama, 6 3 93
Bombay, 5 kgs. 15
Genoa, 40 221
Cochin, 5 19
Cape Town, 3 12
Antwerp, 2 cks. 16 20 191
New York, 6 17
Durban, 6 dms. 3 25
Piræus, 1 ck. 29
Rotterdam, 3 6 10 169
Hamburg, 41 234
Rio de Janeiro, 10 39
Sydney, 10 23

Citric Acid—
Fremantle, 3 c. £16
Brussels, 10 60
Brisbane, 8 45
Sydney, 1 t. 108
Reval, 1 15 191
Lisbon, 5 cks. 20
Yokohama, 3 5 312
Amsterdam, 1 5 137
E London, 1 6
Durban, 1 8
Hamburg, 1 29

Coal Products—
Alizarine
Boston, 35 cks. £403
Reval, 6 cs. 318
Aniline
Calcutta 1 cs. £25
Aniline Oil
New York, 28 dms. £840
Barcelona, 10 cks. 1 0
Aniline Salts
Barcelona, 30 cks £100
Anthracene
Rotterdam, 247 cks. £1,120
Benzine
Melbourne, 25 crates £80
Benzol
Rotterdam, 100 cks. £386
Hamburg, 28 95
Creosote
New York, 4 cs. £34
Naphthaline
Hamburg, 6 cks. £53
N. Orleans, 306 290
Calcutta, 12 13
New York, 88 112 bgs. 147
Pitch
Antwerp 1,539 t. 12 cks. £1,767
Dunkirk, 2,775 2,770
Cette, 2,360 2,786
" 200
Varna, 30 brls. 9
Dusseldorf, 56 126
Ibrail, 140 50
Galatz, 20 7
Baltimore, 1,000 bgs. 225
Hamburg, 2 6
Sbls d'Olonne, 1,270 1,750
Alexandria, 100 50
Newport News, 572 74
Boston, 500 255
Gijon, 195 239
New York, 500 340
Hochfeld, 195
Prussian Blue
Ghent, 14 cks. £74
Antwerp, 2 35
Cologne, 6 27
Pyridine
Hamburg, 2 dms. £75
Tar
Bombay, 30 runlets £23
Sydney, 75 dms. 14
Constantinople, 5 cks. 12
Adelaide, 50 9
Havre, 2,214 pks. 13
Pt. Elizabeth, 200 7
Galatz, 70 brls. 35
Ibrail, 80 35
Mossel Bay, 75 5
Jamaica, 175 27
Cologne, 200 90
Hamburg, 150 70

Copper Sulphate—
Antwerp, 10 t. £155
Gibraltar, 11 c. 9
Paris, 5 78
Treport, 20 325
Galatz, 1 16
Batoum, 20 304

Cream of Tartar—
Napier, 3 c. £12
Brisbane, 5 20
Sydney, 20 kgs. 77
Nelson, 10 40

Disinfectants—
Cape Town, 125 cks. 153 pks. £169
Calcutta, 150 169
Sydney, 2 10 cs. 124
Brisbane, 12 dms. 11
Antwerp, 20 100

Dried Blood—
Dunkirk, 96 t. 17 c. £600

Lime—
St. Kitts, 4 t. 6 c. £20
Antigua, 30 pks. 38

Manure—
Treport, 24 t. £97
Guernsey, 5 10
Ghent, 39 12 c. 22
Pt. Elizabeth, 5 5 31
Rouen, 85 6 265
Bordeaux, 73 11 325
Jersey, 15 95
Cape Town, 118 15 514
Gibraltar, 2 10 20
Chinde 25 57
Guadeloupe, 2 13 80
Trinidad, 2 70
Barbadoes, 578 5,277

Nitric Acid—
Madras 10 c. £14
E. London, 2 kgs. 11

Oxalic Acid—
Sydney, 1 t. £33
Yokohama, 1 10 c. 51
Seville, 5 brls. 19

Oxygen—
Amsterdam, 1 cs. £48

Phosphorus—
Lisbon, 1 cs. £42

Potash—
Christiania, 2 t. 18 c. £115

Potash Salts—
Auckland, 10 t. 4 c. £960

Potassium Bicarbonate—
Philadelphia 2 t. 8 c. £62

Potassium Bichromate—
Bombay, 10 c. £20

Potassium Chlorate—
Cape Town, 140 kgs. £228
Bombay, 11 c. 23

Potassium Chloride—
Colombo, 20 t. £200

Potassium Cyanide—
Brisbane, 5 cs. £37
Delagoa Bay, 20 t. 1,772
Hamburg, 50 500
Melbourne, 8 19 c. 47 2,208
E. London, 15 1,330
Singapore, 10 63
Sydney, 70 742
Tampico, 100 705
Townsville, 17 13 2,008
Baltimore, 10 59

Salt Cake—
Antwerp, 137 t. £171

Saltpetre—
M. Video, 13 c. £13
Oporto, 5 t. 11 101
Santos, 4 9 91
Dunedin, 10 10
Wellington, 10 10

Sheep Dip—
Punta Arenas, 700 cs. £875
Pt. Elizabeth, 5 t. 12 c. 125
B. Ayres, 10 12 209
Durban, 25 dms. 3 22

Slag—
Cape Town, 73 t. 4 c. £132

Soda—
Christchurch, 1 t. £5
Pt. Elizabeth, 3 10
Rotterdam, 5 30
Cape Town, 4 3 c. 12

Sodium Bicarbonate—
San Francisco, 2 c. £6
Pt. Elizabeth, 2 t. 5 27
Brisbane, 7 7

Sodium Prussiate—
Barcelona, 11 cks. £119
Boston, 10 t. 360

Sodium Sulphate—
Ghent. 50 t. £75

Sulphur—
Madras, 2 t. 2 c. £15
Lisbon, 2 19 29

Sulphuric Acid—
Penang, 10 t. 19 c. £21
E. London, 45 cs. 32

Tartaric Acid—
Brisbane, 4 kgs. £23
Fremantle, 2 c. 14
Pt. Elizabeth, 4 25
Hiogo, 3 t. 10 392
Wellington, 3 19
Durban, 8 49

LIVERPOOL.

Week ending February 16th.

Acetic Acid—
Rio de Janeiro, 2 t. 7 c. £36

Alum—
Ibrail, 7 t. £45
Catania, 1 10 c. 7
Oporto, 4 18
Galatz, 8 1 37
Madras, 3 14 20
Halifax, 4 20

Alum Cake—
Bombay, 1 t. £6
Terneuzen, 12 10 c 323

Ammonia (Liquid)—
Rio de Janeiro, 4 c. 2 q. £5

Ammonium Carbonate
Naples, 8 c. £10
Alexandria, 4 6
Genoa, 1 t. 8 35
Newcastle, 2 6 69
Yokohama, 2 5 68
Odessa, 10 kgs. 12
Melbourne, 5 8

Ammonium Chloride—
Trieste, 2 t. £62
M. Video, 6 c. 9
Tampico, 1 31
Hamburg, 5 8
Volo, 5 7
Ibrail 2 5
Odessa, 2 cks. 17
Hiogo, 1 5 23
Genoa. 7 11 136
Catacola, 3 5
Galatz, 5 8
Nauplia, 8 12
Barcelona, 1 8 26

Ammonium Sulphate—
Alicante, 10 t. 2 q. £99
Gd. Canary, 10 100
Demerara, 9 18 c. 1 103
Nantes, 10 100
Teneriffe, 24 3 275
Valencia. 124 11 300 bgs. 1,470
Las Palmas, 18 188

Bleaching Powder—
Alexandria, 10 kgs.
Baltimore, 163 cks.
Bombay, 100 bxs.
Boston, 346
Bucharest, 6 cs
Calcutta, 6
Genoa, 72
Georgetown, 28
Havana, 12
Leghorn, 30
Lisbon, 20
New York, 399
Oporto, 20
Philadelphia, 165
Rio de Janeiro, 22 16
Rotterdam. 4
San Francisco, 50 brls.
Santander, 10
Santos, 6
Vera Cruz, 20

Boracic Acid—
San Sebastian, 10 c. £12

Borax—
Hamburg, 1 t. 12 c. £23
Antwerp, 1 10 22
Sydney, 4 5 60
Natal, 10 7
B. Ayres, 4 cks. 16
Talcahuano, 6 4
San Sebastian, 3 3 42
Ibrail, 2 5
Melbourne, 2 10 36
Christiania, 4 12 69
E. London. 3 5 48

Calcium Chloride—
Genoa. 5 t. 4 c. £12
New York, 37 3 74

Carbolic Acid—
Baltimore, 1 t. 4 c. £49
Hamburg, 1 6 88
Odessa, 9 3 q. 36
Toronto, 1 5 82
Rio de Janeiro, 9 18
Santander. 4 14

Caustic Potash—
Boston, 3 t. 11 c. £89
Cape Town, 1 1 26

Caustic Soda—
Alicante, 30 dms.
Amsterdam. 79
Bahia, 70
Barcelona, 300 115 cks.
Bari, 30
Bombay, 20
Bordeaux, 15
Boston, 200
B. Ayres, 4
Callao, 50
Cape Town. 8 21 cs.
Christchurch, 20
Dunedin, 35
Drammen 5 brls
Galatz, 400
Genoa, 375
Hiogo, 76
Hong Kong, 20
Ibrail, 70
Kingston, Ja, 25
La Guayra, 10
Leghorn, 35
Lisbon, 70
Malaga, 28
Manila, 100
Mollendo, 8
M. Video, 80
Newcastle, 15
New York, 300
Payta, 5
Philadelphia, 200
Pt. Natal, 10
Progresso, 50
Rio de Janeiro, 12
Rio G Do Sul, 30
St. Stephen 50
Salonica, 5
San Francisco, 20
Santos, 20
Sourabaya. 1,000
Sydney, 100
Toronto, 50
Trieste 48
Valencia, 6
Valparaiso, 100 kgs.
Vigo, 15

Chemicals *(otherwise undescribes)*
Copenhagen, 1 t. £34
Boston, 37 10 c. 186
Guayaquil, 2 q. 5
Varna, 10 15
Volo, 5 8
Genoa, 2 10 77
Piræus. 14 24
St John's, 1 kg. 1

China Clay—
Baltimore, 125 t.
Bombay, 76 60 cks.
Boston, 905
Genoa. 100 bgs.
Philadelphia, 300
Pt. Said, 100

Chromium Oxide—
Valencia, 1 c. £9

Coal Products—
Alizarine
Yokohama, 2 cks.
Aniline
Alexandria, 1 cks.

Aniline Colours
Shanghai, 15 cs.
Tokio, 10 pks.
Yokohama, 5

Creosote Oil
Bordeaux, 249 cks.

Pitch
Conakry, 100 bxs.

Tar
Accra, 25 brls.
Hamburg, 132
Pt. Natal, 150 dms.

Cobalt Oxide—
Valencia, 1 c. £36

Copper Sulphate—

Cette,	503 t.	8 c.		£8,334
Trieste,	15	3		242
Genoa,	210	19		3,380
Oporto,	67	9	2 q.	1,090
Messina,	10	4	2	183
Catania,	11	4		173
Venice,	137	11	1	2,178
Leghorn,	219		1	3,546
Naples,	115	3		1,848
Bordeaux,	263	2	3	4,239
Galatz,	2	9		42
Bari,	12	2		180
Ibrail,		10		8
Singapore,	1	10		25
Lisbon,	6	15	2	117
Rio de Janeiro,		5	3	5
Hamburg,		13	3	12
Braila,	2	10		46
Piræus	3	2	2	54
Palermo,		10		9
Marseilles,	14	18		257
Zante,	10	12		189
Corfu,	5	2		82
Patras,	1	7		22
Seville,	12	7		210
Manila,		9		10
Rouen,	25	4		414
Nauplia,	1	4		17

Copperas—
Tripoli, Syria, 45 brls.
Piræus, 7 t. 1 c. 2 q. £14
B. Ayres, 3 1 6
Beyrout, 25 brls.

Cream of Tartar—
Yokohama, 2 c. 1 q. £10

Disinfectants—
Calcutta, 1 t. 10 c. £9

Iron Oxide—
Gijon, 1 t. 14 c. £10
E. London, 6 78

Magnesia—
Havana, 1 c. £97
Alicante, 1 t. 7 22
Tampico, 10 cs.

Magnesium Carbonate—
Tampico, 10 cs. £14

Magnesium Chloride—
Rouen, 40 dms.

Magnesium Sulphate—
Rio de Janeiro, 200 kgs.

Manure—
St. Malo, 260 t. 9 c. £1,259
Gd. Canary, 7 68

Paint—
Belize, qty.
B. Ayres, 1 pk 8 dms. qty.
Callao, 40 220 cs. 24 cks.
Cape Coast, 17
Christiania, 60
Coronel, 125 kgs.
Galatz, 1 cs. 19 dms.
Hong Kong, 72
Lisbon, 46
Livingstone, 27
Manaos, 17 cks.
Nassau, 77
Pernambuco, 9
Rotterdam, 16 kgs.
Sierra Leone 2
Syra, 20 dms.

Painters' Colours—
Antwerp, 47 pks. 80 dms. 25 cks.
Bahia, 50 kgs.
Baltimore 129
Bombay, 1,046
B Ayres, 259
New York, 144
Rio de Janeiro, 29 32 cs.
San Juan, 4
Valparaiso, 30
Yokohama, 200

Paraffin Wax—
Bari, 15 bgs.
Palermo, 10
Piræus, 13 13 pks.
Salonica, 10 cs.
Savanilla, 10
Tetuan, 2

Phosphate—
Madras, 5 t. £8

Phosphorus—
Progresso, 2 c. £26

Picric Acid—
Rangoon, 7 c. 2 q. £30

Potashes—

M. Video,	1 t.	16 c.	3 q.	£24
B. Ayres,		8	2	5

Potassium Bicarbonate—
New York, 10 c. 2 q. £15

Potassium Bichromate—

Venice,	1 t.	1 c.	2 q.	£38
Ancona,		5	3	10
Tampico,	1	1	2	35
Aleppo,	6			11
Constantinople,	1	2		42
Catania,		7		13

Potassium Carbonate—

Boston,	17 t.	7 c.		£304
Rio de Janeiro,		16	3 q.	14

Potassium Chlorate—

Lisbon,		10 c.		£16
Catania,		6		9
Cabedello,	4 cs.			74
Hiogo and Shanghai,	12 t.	10		339
Hiogo,	20			635
Sydney,	5			160
Rotterdam,	1	5		54
Vera Cruz,	1	15		69
Christiania,	2			64
Tampico,	1			28
New York,		10		15

Potassium Nitrate—
Gd. Canary, 3 t. £42

Potassium Prussiate—
Vera Cruz, 2 t. £110

Potassium Stannate—
Bombay, 14 c. £38

Salt—

Accra,	12 t.	5 c.
Antwerp,	105	
Baltimore,	154	14
Benin,	4	
Boston,	200	
B. Ayres,	1	5
Cabenda,	8	11
Calcutta,	2,355	
Cameroons,	32	7
Cape Lahou,	14	14
Christiania,	805	13
Conakry,	25	2
Ghent,	250	
Hamburg,	1	17
Kinsembo,	7	3
Landana,	13	15
Lagos,	17	17
Matadi,	22	6
Mussera,	7	3
N. Orleans,	2,250	
Newcastle,	25	
Old Calabar,	100	2
Para,	200	
Pt. Natal,	468	4
Rio de Janeiro,	2	100 cs.
St. John's,	84	
San Fernando,	18	15 c.
Shanghai,		25 cs.
Sherbro,	150	4 c.
Sierra Leone,	338	19
Sinoe,	10	
Trinidad,	70	14
Valparaiso,	1	14
W. Indies,	15	

Salt Cake—

Antwerp,	250 t.		£322
Baltimore,	150	18 c.	224

Saltpetre—

Paraiba,	1 t.	12 c.	2 q.	£32
Maranham,		11	3	12

Sheep Dip—

E. London,	3 t.	5 c.		£45
Belize,		3		5
B. Ayres,	19 / 200 dms.	3	1 q.	150
Odessa.	9 t.	4	2	254
Pt. Natal,	1,000 dms.			203

Soap—
Abonnema, 500 bxs
Accra, 115
Aden, 150 bdls.
Alexandria, 22 brls.
Algoa Bay, 1,350 pks.
Appam, 35
Baltimore. 2 cks.
Bengalore, 30
Barbadoes, 1,400
Bathurst, 161
Bloemfontein, 9 cs.
Bombay, 975 50
Cape Coast, 20
Cape Town, 3,820 2
Conakry, 220 40 pks.
Delagoa Bay, 925 35
Demerara, 61 2
E. London, 2,805
Gd. Lahou, 50
Guayaquil, 50
Hiogo, 1
Hong Kong, 500
Jamaica, 200
Johannesburg, 125
Karachi, 525
Kingston, Ja., 1,500
Lagos, 236
La Libertad, 1
Madras, 44
Malta, 8
Manaos, 1,000
Melilla, 50
Monrovia, 65
Opobo, 1,040
Para, 300
Penang, 5
Piræus, 5 bdls.
Pt. Elizabeth, 650
Pt. Natal, 1,951 280 13
Porto Novo, 100
Pretoria, 20
Quittah, 25 pks.
Rangoon, 10 9
Rawal Pindi, 15
Rotterdam, 101 221
St. Lucia, 55
St. Thomas, 700
Salt Pond, 90
Sapeli, 100
Shanghai, 500
Sherbro, 150
Sierra Leone, 75
Singapore, 50
Smyrna, 9 228
Surinam, 20
Syra, 45
Teneriffe, 400
Toronto, 400
Transvaal, 35 1 brl.
Valparaiso, 1 cs.
Warri, 100
Winnebah, 35

Soda Alkali—
Barcelona, 50 brls.
Kingston, Ja., 15
Leghorn, 35
Madrid, 80
Para, 30
Toronto, 40

Soda Ash—
Acajutla, 20 brls.
Antwerp, 1,070 bgs.
Baltimore, 774 28 cks.
Bombay, 400 66 tcs. 58
Boston, 124
B. Ayres, 34
Canterbury,
Christiania, 500
Corfu, 25 brls.
Galatz, 40
Hiogo, 41
Melbourne, 190
M. Video, 75
N York, 1,700 / 114 tcs. 207
Oporto, 4
Philadelphia, 140
Rio de Janeiro, 30 / 90 brls.
Rotterdam, 200
San Francisco, 364
Santos, 10
Sydney, 302
Tampico, 7 tcs.
Venice, 100 15
Vigo, 5

Soda Crystals—
Malta 70 brls.
M. Video, 100 kgs.
Newcastle, 300
Varna, 20

Sodium Arseniate—
Bombay, 6 cks.
Rio de Janeiro, 6 cs. 5 brls. 1

Sodium Bicarbonate—
Aalborg, 3 cks.
Alexandria, 50 brls.
Auckland, 100 kgs.
Bagdad, 5
Barcelona, 75
Bombay, 20 bgs. / 392 kgs. 18
Dunedin, 110
E. London, 16
Galatz, 20
Genoa, 97 pks.
Gijon, 8 cks.
Hamilton, 5
Hango, 20
Karachi, 145
Libau, 80
Madras, 60
Madrid, 330
Marseilles, 60
Melbourne, 67
Newcastle, N.S.W., 100
New York, 100 bgs.
Para, 10
Penang, 30
Pt. Natal, 20 / 40 kgs.
Rangoon, 16
Rotterdam, 30 2
San Sebastian, 20
Shanghai, 7
Singapore, 4
Talcahuano, 5
Valencia, 50 2
Vera Cruz, 10
Wellington, 90 18

Sodium Chlorate—
Rio de Janeiro, 10 kgs.

Sodium Silicate—
Bilbao, 35 brls.
Bombay, 15

Sodium Tartrate—
Havana, 1 ck.

Starch—
Nantes, 4 hds.
Santos, 7 cks.

Sulphur—

Barranquilla,	1 t.			£10
St. John's,	2	4 c.	2 q.	16
Boston,	75	3		324

Sulphuric Acid—

Maranham,	1 t.	12 c.	2 q.	£20
Para.		4		3

Superphosphates—

Genoa,	215 t.	16 c.	3 q.	£450
Saint Malo,	211	9	2	370
Nantes,	157		3	259
Bordeaux,	62	18	3	111
Valencia,	224	9	3	444
St. Nazaire,	200			357
Gd. Canary,	22			73
Teneriffe,	10			35
Cullera,	300			590

Tannic Acid—
Rio de Janeiro, 12 c. £63

Tartaric Acid—
Havana, 15 c. £85

Varnish—
Alexandria, 2 cs.
Constantinople, 2
Genoa. 6 cks.
Pt. Natal, 4
Rangoon, 15 dms.
Rio de Janeiro, 2
Santos, 1
Sapeli, 3
Smyrna, 24

White Lead—
Pt. Elizabeth, 120 dms.
Pt. Natal, 80 kgs.

Zinc Chloride—
Bombay, 4 t. 12 c. £52

MANCHESTER.

Week ending February 16th.

Alum—
Bombay, 328 brls.

Ammonium Carbonate—
Rotterdam, 3 cks.

Aniline Oil—
Belgium, 8 dms.

Anthracene—
Germany, 63 cks.

Calcium—
Bagdad, 8 dms.

Caustic Soda—
Rio Grande Do Sul, 100 dms.
Bombay, 20

Extracts—
Germany, 4 cks.

Glue—
Germany, 2 cks.
Holland, 10

Naphthylamine—
Germany, 28 cks.

Paraffin Wax—
Hamburg, 50 cs.

Rosin—
Bombay, 100 brls.

Sodium Naphthionate—
Germany, 38 cks.
Tar Oil—
Belgium, 2 tins
Germany, 3 brls.
Toluol—
Germany, 49 dms.
Varnish—
Bombay, 10 cks. 10 dms.

HULL.

Week ending February 12th.

Alkali—
Stockholm, 1 ble.
Ammonium Carbonate—
Amsterdam, 25 kgs.
Ammonium Sulphate—
Dunkirk, 591 bgs.
Ghent, 1,104
Rotterdam, 91
Carbolic Acid—
Amsterdam, 115 cks.
Stettin, 10 btls.
Chemicals (*otherwise undescribed*)
Amsterdam, 48 cks.
Bergen, 5
Bremen, 2
Christiania, { 1 1,820 slbs. 65 pks.
Constantinople, 3
Drontheim, 12
Gothenburg, 5 8 cs.
Hamburg, 125
Hango, 11 4
Odessa, 28
Reval, 2
Rotterdam, 4 49
Stettin, 134 bgs. 2
Cottonseed Oil—
Antwerp, 912 c.
Amsterdam, 1,646
Bremen, 2.8
Copenhagen, 301
Dunkirk, 100
Gothenburg, 128
Hamburg, 346
Rouen, 475
Rotterdam, 1,138
Dyestuffs (*otherwise undescribed*)
Stettin, { 60 bgs. 1 ck. 2 cs.
Glue—
Bergen, 2 bgs.
Ghent, 2
Guano—
Dunkirk, 1,000 sks.
Linseed Oil—
Bergen, 17 c.
Bremen, 2 cs.
Christiansund, 17
Christiania, 103
Copenhagen, 76
Hamburg, 53
Rotterdam, 100
Manure—
Copenhagen, 65 t.
Painters' Colours—
Antwerp, 38 cks. 5 cs. 5 dms.
Amsterdam, 15
Bergen, 1
Christiania, { 8 1 35 pks. 44 dms.
Copenhagen, 30 1 12
Gothenburg, 1
Ghent, 5 11
Hamburg, 41 1 5
Odessa 150
Rouen, 27 11 32
Reval, 1
Rotterdam, 16 2
Stettin, 15
Pitch—
Antwerp, 181 t.
Soap—
Bergen, 1 cs.
Copenhagen, 2
Starch—
Bergen, 32 bgs.
Tallow—
Hamburg, 24 cks.
Tar—
Amsterdam, 6 cks.
Christiania, 6
Treacle—
Bergen, 10 cks
Varnish—
Amsterdam, 1 cs
Hamburg, 1 ck.
Rouen, 1

Whiting—
Antwerp, 22 cks.
Christiania, 30 bgs.

GLASGOW.

Week ending February 17th.

Acetic Acid—
Bombay, £26
Alum—
B Ayres, 10 t. 15¾ c.
Ammonium Sulphate—
Demerara, 96 t. 17 c.
Antwerp, 10 2
Rotterdam, 191 15½
Penang, 20
Asbestos—
Rotterdam, £7 14s.
Borax—
Canada, £148
Rotterdam, 345
Hamburg, 15
Antwerp, 238
Castor Oil—
Adelaide, £43
Caustic Soda—
B. Ayres, 12 t. 4¼ c.
Santander, 5 17¾
Seville, 35 4
Chemicals (*otherwise undescribed*)
Christiania, £1
Coal Products—
Naphtha
Rotterdam, 4 t. 9 c.
Pitch
Brindisi, 2,569 t. 14 c.
Karachi, £45
Bombay, 99
Calcutta, 22
Spain, 153
Christiania, 35
Antwerp, 520
" 96
Penang, 57
Pitch and Tar
Madras, £167
Tar
Karachi, £37
Bombay, 91
U.S.A., 59
Christiania, 2 t. 4¼ c.
Coal Products (*otherwise undes.*)—
Rotterdam, £38
Cod Oil—
Adelaide, £50
Cutch—
Rotterdam, £30
Dried Blood—
Antwerp, 25 t.
Dyestuffs (*otherwise undescribed*)
Rio de Janeiro, £45
Rotterdam, 183
Extracts—
Victoria, £74
Guano—
Malaga, 10 t. 1 c.
Hydrochloric Acid—
Bombay, £51
Iodine—
Rotterdam, 1 t. 5 c.
Iron Sulphate—
Bombay, £60
Lead Acetate—
Bombay, £90
Lead Nitrate—
Antwerp, £20
Linseed Oil—
Adelaide, 1 t. 17¼ c.
Calcutta, 16
Cape Town, 19
Litharge—
Bombay, £40
Montreal, 30
Magnesia—
Adelaide, £21
Magnesium Sulphate—
Adelaide, £24 16s.
Manganese—
Basle, £105
Manganese Oxide—
U.S.A., £110
Manure—
Demerara, 25 t. 10 c.
Kingston Jam., 14
Muriatic Acid—
Bombay, £53
Nitric Acid—
Bombay, £533

Paint—
Colombo, £130
Sourabaya, £24 11s.
Painters' Colours—
Bombay, qty.
B. Ayres, "
Adelaide, "
Melbourne, "
U.S.A., £175
Bombay, 37
Calcutta, "
Cape Town, 105
Penang, "
Paraffin Wax—
San Sebastian, £112
Bilbao, 40
Cartagena, 20
Skien, 30
Phosphoric Acid—
Trinidad, £21 17s.
Potassium Bichromate—
Melbourne, £72
Antwerp, 289
Bombay, 284
Hiogo, 180
Potassium Chloride—
New York, £930
Potassium Sulphate—
Kingston Jam., £40
Sheep Dip—
B. Ayres, £65
Soap—
Hong Kong, 1 t. 10¾ c.
Colombo, 1 3½
E. London, 2 12
Sodium Bichromate—
Bombay, 1 t. 13 c.
Oporto, 1 2
Antwerp, 2 3
Bombay, £88
Ghent, 5 1¼
Johannesburg, 4 9¼
Sulphur—
Demerara, 8 t. ½ c.
Trinidad, 4 17¼
Sulphuric Acid—
Bombay, £540 10s.
Colombo, £35
Karachi, 195
Madras, 102
Tallow—
Rotterdam, 16 t. 18 c.
Treacle—
Gothenburg, 7 t. 15½ c.
E. London, 2
Varnish—
Bombay, £30 10s.
Colombo, 22 15

TYNE.

Week ending February 12th.

Alkali—
Antwerp, 1 t. 13 c.
Rotterdam, 10 6
Ammonia—
Pomaron, 9 c.
Ammonium Carbonate—
Trondhjem, 1 t.
Ammonium Sulphate—
Ghent, 100 t
Anthracene—
Rotterdam, 38 t. 8 c.
Antimony—
Antwerp, 6 t. 4 c.
Christiania, 1
Rotterdam, 4
New York, 30
Barium Carbonate—
New York, 32 t. 3 c.
Bleaching Powder—
Antwerp, 8 t. 2 c.
Christiania, 2 17
Hamburg, 5 1
Rotterdam, 27
Lisbon, 10 4
Bergen, 2 2
Trondhjem, 11 10
New York, 12 7
Caustic Soda—
Christiania, 2 t. 18 c.
Venice, 29
Genoa 21
Valencia, 10 4
Chemicals (*otherwise undescribed*)
Genoa, 18 c.
Copperas—
Oporto, 5 t. 4 c.
Ancona, 100

Guano—
Dunkirk, 227 t. 16 c.
Hydrochloric Acid—
Pomaron, 16 c.
Litharge—
Oporto, 3 t. 1 c.
Copenhagen, 5 6
Lisbon, 2
Magnesia—
Odense, 9 c.
Manure—
Valencia, 247 t. 5 c.
Nitric Acid—
Pomaron, 11 c.
Ochre—
Trondhjem, 16 c.
Paint—
Hamburg, 17 c.
Rotterdam, 1
Copenhagen, 18
Stavanger, 8
Bergen, 8
Soda—
Christiania, 8 t. 2 c.
Oporto, 11 6
Hamburg, 50
Rotterdam, 25 19
Venice, 10
Soda Ash—
Christiania, 6 t. 4 c.
Venice, 50
Sodium Hyposulphite—
New York, 30 t.
Sodium Silicate—
Hamburg, 5 t. 1 c.
Sodium Sulphate—
Antwerp, 20 t. 2 c.
Sulphuric Acid—
Pomaron, 2 c.
Tallow—
Genoa, 6 t.
White Lead—
Oporto, 11 c.
New York, 24 t. 19
Witherite—
New York, 22 t. 10 c.

GOOLE.

Week ending February 9th.

Benzol—
Boulogne, 24 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 50 cks.
Hamburg, 22
Coal Products (*otherwise undes.*)—
Amsterdam, 2 cks.
Antwerp, 4 1 cs.
Boulogne, 25 2
Rotterdam, 75
Colours—
Calais, 4 cs. 3 pks.
Rotterdam, 1
Creosote—
Kuysna, 1,350 cks.
Dyestuffs (*otherwise undescribed*)
Antwerp, 5 cks.
Ghent, 10 bgs. 12 cs.
Hamburg, 16 cks.
Manure—
Bruges, 203 bgs.
Dunkirk, 194
Ghent, 393
Pitch—
Antwerp, 505 t.
Salt Cake—
Ghent, 100 t.
Soap—
Ghent, 25 cs.

GRIMSBY.

Week ending February 12th.

Alkali—
Port au Prince, 454 dms.
Caoutchouc—
Gothenburg, 1 ble.
Coal Products (*otherwise undes.*)—
Malmo, 1 ck. 1 dm.
Coal Products (*otherwise undes.*)—
Dieppe, 25 cks. 50 brls. 3 kgs.
Colours—
Antwerp, 3 cks. 6 kgs.
Hamburg, 2 1 cs.
Rotterdam, 6 3

PRICES CURRENT. WEDNESDAY, FEBRUARY 23RD, 1898

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/. and 40 °/.	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 °/.)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	20	15	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- & 33/-		
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	17	6
„ „ (grey) Hull	„	9	17	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	0	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	4
„ 50/90 „	„	0	1	6½
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97 %)	per gallon	0	1	0
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	0	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	49	17	6
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	12	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	23	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	17	6
„ „ (grey) (ex ship	„	7	17	6
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	10	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	7
„ „ Miscible, 60° O.P	„	0	3	7
Oils :—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¼
„ Carbonate, 90% (ex ship)	per ton	16	0	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¼
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1 11/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „	4	0	0
„ „ (Alkali) 58 %	„ „	4	0	0
„ „ (Soda Crystals)	„ „	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4¼
„ Borate (Borax)	net, per ton.	13	0	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton	8	10	0
„ „ (74 % Caustic Soda)	„ „ „	8	2	6
„ „ (70 % Caustic Soda)	„ „ „	7	5	0
„ „ (60 % Caustic Soda)	„ „ „	6	5	0
„ „ (pure liquor 90° Tw.)	„ „ „	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	4¼
„ English Ingots	per ton	66	15	0
Zinc (Spelter)	„	18	2	
„ Chloride (solution, 100° Tw.)	„	5		
„ Sulphate, Crystal	„	5		

THE

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LATE ADVERTISEMENTS.

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Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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THE ECONOMICS OF SMOKE PREVENTION.

THERE is no teacher better than experience if its lessons can only be mastered, and in regard to the prevention of dense smoke a little practical information is worth more than a great deal of preaching.

In this country we have had a very fair dose of the latter, and as far as regards the practical element, it is necessary to give something like a definition of what is practical work.

In some districts where the anti-smoke crusaders are active, it is deemed all-sufficient if the successful operation of one stoker or smoke consuming contrivance can be put on record. The reformers then seem to think that a time-limit, an inspector, and a Police Court constitute all that is necessary to exterminate black smoke.

We are in no way forgetful of the extensive trials that have been conducted by the Manchester and Salford Smoke Abatement and Sanitary Association, but it is just such trials as these that make a definition of what is practical information necessary.

Tests judged by the production or suppression of smoke are not practical information, neither are trials, even though they show the very best results, both for economy and the prevention of smoke. The only reliable *data* is that obtained by noting the behaviour of special apparatus when used daily as part of a steam raising plant.

These are the opinions we have long held, and we make this reference to them because they have been unconditionally endorsed by an absolutely independent body of smoke experts.

For some months, a special committee appointed by the Franklin Institute, at Philadelphia, U.S.A., has been investigating and discussing a great number of mechanical stokers, etc., collected from all parts, and in the final discussion the conclusions drawn are almost exactly rendered in the words just written above. It was most emphatically pointed out that plant which gave the very best results at separate trials often proved an utter failure in every-day use. The results, therefore, were of no practical value. Now, while we have always been willing to admit as a general principle that in steam raising there is not only no need for excessive smoke, but its production is often wasteful, it is important to note that a great number of tests made at Chicago, on a variety of boilers in every-day use, showed that an absolutely smokeless chimney gave a lower efficiency in water evaporated per lb. of coal, than one emitting dense black smoke. The deficit was not great, but its existence put an end to the pet theory of anti-smoke agitators, that there is a little gold mine in smoke prevention.

It is only fair to state that the highest efficiency was obtained when light smoke was produced, and this leads to another point which this Committee has helped to elucidate. The great drawback to admitting the truth of the light smoke argument, is that it is almost impossible to obtain convictions and fines unless a hard and fast time limit is made the basis

of smoke regulations. To define light, dense, black and other grades of smoke, has been beyond the ingenuity of smoke suppressors. This difficulty, however, has now been overcome by Dr. Ringelmann, of Paris, who by a simple system of ruled cards has enabled comparative records of smoke to be easily taken, the opacity of the smoke ranging from an almost imperceptible grey to a dense black. It is thus possible to determine by direct experiment what shade of smoke is compatible with the greatest economy in any town or district, and to enable inspectors to judge offending chimneys by a fixed, rational, and righteous standard. The Committee definitely state that smoke regulations which only reach those whose chimneys emit positively black smoke, will not do much to improve the general condition of a city's atmosphere. This scale of Dr. Ringelmann's, however, makes it possible to draw the line and lay down just and exact rules for the regulation of smoking chimneys. We earnestly commend these facts to those who so ardently seek to suppress smoke at all risks to industrial progress. They now have the means with which to prove that they have no real desire to tyrannise, though they be veritably anti-smoke zealots.

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

THE fifth meeting of the present session of the above section was held on February 23rd, at University College, Nottingham, Mr. James O'Sullivan being in the chair. There was a fair attendance, including members from Derby and from Leicester. A short paper on "Discrepancies in Sumac Analyses" was contributed by Mr. J. T. Wood, in which it was shown that there was no concordance between the results obtained by the hide powder, or gravimetric method of estimating the tannin in sumac, and the method of Lowenthal, which is volumetric. Amongst the differences recorded by Mr. Wood were the following:—

No. of Experiment.	Hide Powder.	Lowenthal.
No. 1	20·3	14·1
,, 4	19·0	19·0
,, 7	17·0	22·4

The last two cases form exceptions to the rule that the results by the hide power method are greater than by Lowenthal's, a generalisation that seems to show that there exists in some sumacs a body or bodies other than tannin in considerable quantity, also having the property of being absorbed by hide. The question is, is this gallic acid?

Mr. Carulla (who, in Mr. Wood's absence and at his request, had read the paper) remarked that it might be worthy of mention that Dr. Rideal published in *Industries* (Vol. XI., p. 453) results that quite confirmed Mr. Wood's experience, having obtained from sumac by Lowenthal's method 27·46 % of tannin, a figure 3 % in excess of the highest given in Mr. Wood's paper, whilst by the gravimetric process Dr. Rideal only got 22 %

The chairman said he understood old sumac was not so good as new for the purposes of the tanner, and hence it might reasonably be thought that the age of the samples might have something to do with the variations in the analyses. An oxidising action would probably be going on, so that the tannin would be found in very varying states.

Dr. Stanley Kipping suggested that the optical activity of the extract might be due to the impurities referred to by Mr Wood.

The discussion was also joined in by Messrs. Archbutt, Adams, Burford, and Caven, and it left no doubt in the minds of those who heard it that there is here a great field open to the chemical investigator. It was felt that Mr. Wood has done good service by bringing the matter before the section.

SCOTTISH SECTION.

THE deferred meeting of the section (the fourth of the session) was held on Tuesday, March 1st, at 14, South St. Andrew-street, Edinburgh; Mr George T. Beilby, the chairman of the section, presiding This was an occasion set apart specially for the brewing division of the industry of chemistry, and in accordance with the new system recently introduced by the Scottish section, Edinburgh was the place of meeting fixed, brewing, in a sense, being the main industrial staple of that city. In compliance likewise with the new policy of the section the approaching occasion was pretty fully announced amongst brewers generally and their employés, accompanied at the same time by a free invitation of attendance on the part of all interested in brewing. The result was an unusually large and thoroughly representative gathering of members of the society and non-members, the efforts of the local council being in this respect crowned with success. The main feature of the evening was an address by Dr. Wm. Frew, of Glasgow, on "The Education and Training of Brewers." At the start he emphasised the fact that the scientific practice of brewing is strictly a chemical operation; that brewers could by no possibility have any better rallying centre than the Society of Chemical Industry, and that gentlemen present who had not yet become members would do well for themselves and for brewing if they came forward at once with their subscriptions. This would answer their purpose much more effectually than by branching out into brewing institutes or any such like excess of sub-division; for the society, with its splendidly organised journal, was there ready to embrace all branches of the chemical industry, and to do better for them than anything possible as an outcome of mere individual exertion. The lecturer went on to deplore the present most unmethodical practice pursued in the upbringing of the young brewer in this country. Fifty years ago the happy-go-lucky system, or rather lack of system, was possible in Great Britain, because the country at that time had no rival in the supply of the world's markets with the products of the brewery. The export trade was the only beer export trade then in the hands of any country. Germany brewed a little for home consumption, but exported nothing, whereas now the breweries of Germany and Austria combined exported about as much as this country, and their export trade was growing. Dr. Frew went on to show that this to us unwelcome result had been brought about by the gradual growth of the brewing schools of Germany on the basis of a systematic union of science and practice. He ran over the brewing curriculum as now for many years in vogue over Germany and Austria, and showed that the education in this way furnished was of the most thorough kind, embracing all the departments, from the humblest working duties in the mash-house to the highest *formulæ* in the laboratory. This was the only sure way to turn out a real brewer; and until this country introduced something of the kind we had to lay our account to a continued encroachment on the part of the German brewers, and a continued curtailment of the sphere of the brewers of this country. Endowed research in the domain of brewing was urgently needed in connection with the proposed new British School of Brewing, and he felt certain that by a little effort of public spirit here *desiderata* might be come by. He thought the English brewers were more tied down to old forms than those of Scotland, and that the latter might more readily emancipate themselves if they addressed themselves to that task with a will. His idea was that the Heriot-Watt College of Edinburgh might be utilised for the promoting and instituting of a regular Scottish school of education in brewing and of brewing research, and that this could be realised if the principal brewers of the country would lay their heads together to that end. Dr. Frew's address was received with marked attention, and frequent applause during delivery, and was followed by highly appreciatory remarks on the part of several of those present. It is likely that something more may soon be heard of the project thus auspiciously aired. Mr. A. F. Watson, B.Sc, followed with an account of a process for the recovery of beer from bottoms or grounds.

Lever Brothers, Limited.—The directors of Lever Brothers, Limited, in their report for the year ended December 31 last, state that the balance standing to the credit of profit and loss account (£261,295.) has been appropriated as follows:—Dividend on preference shares at the rate of 5 per cent. per annum, £50,000.; dividend on ordinary shares at the rate of 12½ per cent. per annum, £96,875.; bonus to customers, £49,392.; carried to reserve fund, £35,000.; balance carried forward, £30,028. The above dividends on the preference and ordinary shares were paid on July 1, 1897, and January 1, 1898. The bonus to customers was paid on August 14, 1897, and Feb. 15, 1898.

Presentation to Dr. Ludwig Mond.—The annual dinner of the Salt Chamber of Commerce was held at Northwich on Wednesday evening, under the presidency of Mr. H. J. Falk. Representarives of all the salt, chemical, and kindred manufactures in Cheshire were present Mr. Falk, in the course of the proceedings, presented to Dr. Ludwig Mond a beautiful silver casket and address in recognition of his gift to the nation of the Davy-Faraday Institution, which was opened by the Prince of Wales. The casket was set with precious stones, inscribed with the recipient's name, and the German motto "Licht, mehr Licht." Mr. Falk said that though Dr. Mond's gift was an institution for pure research in science, it was of the utmost moment to the future of the English people. Almost all work in pure research in the past had been done by men who had worked with inadequate tools, but the foundation of the Davy-Faraday Institution would give to the very poorest seeker after scientific truth advantages so far impossible.—Mr. R. L Mond accepted the gifts in the unavoidable absence of his father.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Metals from Sea Water. W. S. Rock and J. Sinel. 3,653. February 14.
Metals from Sea Water. W. S. Rock. 3,654. February 14.
Artificial Products from Gelatine. A. MacFarlane and H. W. Stanbury. 3,678. February 14.
Drying Wood, etc. H. McPhail. 3,690. February 14.
Oxidizing and Bleaching by Electricity. J. G. A. Rhodin. 3,749. February 15.
Extracting Precious Metals. F. B. Aspinall and E. C Ekströmer. 3,795. February 15.
Manufacture or Regeneration of Chromates or Bi-chromates from Waste Battery Liquors, or Chrome Alum or Sesqui Salts of Chromium. J. Y. Johnson. 3,801. February 15.
Chlorination of Metals. G. F. Smith. 3,807. February 15.
Reducing Tin Oxides. S. O. Cowper-Coles. 3 830. February 16.
Treating Indiarubber, etc. R. H. Biffen and E. W. Howard. 3 909. February 16.
Treating Cottonseed. J. C. W. Stanley. 4 032 February 17.
Producing Carbides. J. Landin. 4,033. February 17.
Manufacture of Calcium Carbide. H. Maxim. 4,075. February 18.
Purifying Water. J. D. van der Made. 4 137. February 18.
Improvements in Soaps. E. G. Hughes. 4,153. February 19.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improved Method of and Means for the Drying of China Clay. A. C. Tulloch, 50, Grange-park, Ealing, W. Eng. Pat. 24,505. October 22, 1897.

The china clay is spread on trays, stacked on trucks, and these are run into a drying chamber, situated over and freely communicating with an air-heating chamber. Through this chamber an iron flue passes, which, conveying away the products of combustion from two furnaces, heat the surrounding air, which in turn passes to the drying chamber. The gases eventually escape through a brick flue to the chimney. The drying chamber also is fitted with an uptake and damper for regulating the flow of hot air. There are seven figures.

Improvements in Nitric Acid Condensers. J. V. Skoglund, 32nd-street, Avenue D, Bayonne City, New Jersey, U.S A. Eng. Pat. 22,816. Oct. 5, 1897.

The gases from the generator are passed up two towers packed with glass, etc. The towers are maintained at a temperature that prevents any serious condensation. At the top of the second tower is a condenser of S pipes, in which the vapours liquefy and form red nitric acid. This flows back again down the tower, and, meeting the hot gases ascending, the nitrogen oxides and chlorine are driven off, and white nitric acid escapes at the bottom. Pure acid is thus formed in one operation, without loss of acid. A feature of the condenser is that only the bottom length of pipe is earthenware, the rest being lead, which ensures a more perfect condensation, and avoids all the attendant evils of a long earthenware condenser. This departure has been made possible by the elucidation of the fact that the vapours have very little action on lead after once being partially condensed. The spray of condensing water thus meets a lead pipe when coldest, avoiding any sudden chilling of the earthenware portion. Cracks and leaky joints are thereby obviated. There is one figure.

Improvements in the Combined Electrolytic and Leaching Treatment of Zinc-bearing Ores and Zinc-bearing Products. E. A. Ashcroft, "Maycroft," Newcommon-street, Newcastle, N.S.W. Eng. Pat. 7,532. March 23, 1897.

In the treatment of zinc ores with iron salts, as described in Patent 13 850/94, instead of using iron anodes, carbon ones are used, and a solution of ferrous chloride is introduced directly. The solution is made by dissolving "scrap" in hydrochloric acid. In the process a zinc-bearing solution, practically free from iron, is circulated through the cathode compartments, the ferrous chloride solution is then added, and the mixture circulated through the anode compartments. The iron is thus converted into the ferric state. After removing a portion of this solution, to be used for leaching purposes, the remainder is passed through a box filled with metallic iron, thereby re-forming the ferrous salt, which again enters the process. There is one figure.

Improvements in or Connected with the Purification of Water, Sewage, or other foul liquids. W. M. Ducat, 13, Devonshire-terrace, Hyde Park, London, W. Eng Pat. 5,803. March 4, 1897.

This is a modification of the patent described in the *Journal*, No. 560, p. 123, and has reference to the arrangement of the filtering materials. The order of stratification is reversed, so that, contrary to the usual practice, the coarsest material is at the top and the finest at the bottom. The reason for this is to allow the sludge to penetrate to those portions of the filter where it is best subjected to the beneficial action of the bacteria, by whose agency the sludge is liquefied. It is evident that in this way the solid particles quickly reach the purifying area, and are retained there until sufficiently reduced to pass through the fine filtering strata which are below. There are two figures.

Improvements in or Relating to Coke. R. Dixon, South View, Crook, co. Durham. Eng. Pat 8,007. March 29, 1897.

The waste gases from beehive ovens are used for heating retort ovens, the gases being conducted to the latter through mains, at the termination of which tuyeres are provided for the admission of air, if necessary. There is one figure.

An Improved Compound for Waterproofing and other Purposes, applicable also as an Acid-resisting and Insulating Material for Electric Cells. C. Baswitz, 39, Alt Moabit, Berlin. Eng. Pat. 14,469. June 15, 1897.

With a view to forming a waterproof coating that can be applied to fabrics without destroying their flexibility, a mixture of asphalte 150 parts, paraffin 50 parts, 30 parts vaseline, and 770 parts of benzine is suggested. Suitable colouring matters may be added at will.

JUDGMENT IN THE SACCHARINE CASE.

In the Queen's Bench Division on Monday, Mr. Justice Kennedy gave judgment in the case of Sharp and another *v.* the Elberfeld Farben Fabriken Company, Limited, which was an action brought by Messrs Montagu, Sharp, and Company, of London, against the defendant company, who carry on business in Manchester, to recover damages for breach of two contracts for the sale and delivery to the plaintiffs of a quantity of sycose, which was described as a purer and better form of saccharine. The question for the court to decide was merely one of damages, and the defendants contended that they should not exceed £500, which they had paid into court. His Lordship said he had some difficulty in assessing the damages, as there was no market price which could be taken as the test, there being no person from whom the plaintiffs could get the article in question except the defendants. Ultimately, however, his Lordship assessed the plaintiffs' damages at £1,236. A stay of execution was granted for ten days.

THE CULTIVATION OF SUGAR-BEETS.

OFFICIAL RECOGNITION.

At a meeting of the Chambers of Agriculture, held on Tuesday, Colonel Milward, M.P., drew attention to the desirability of promoting the growth of sugar-beet in this country. Experiments which had been made during the past seven years proved that sugar-beet could be grown here. Altogether some 500 experiments would this year be made in every part of the kingdom in order to test the question whether beet could be grown in this country with a sufficient amount of saccharine matter in it. This was a matter of great interest to the agriculturists of the country, and they would be greatly helped if the Board of Agriculture would take cognizance of it, and publish the results of the experiments.

Mr. W. F. Lawrence, M.P., said this question of the growing of sugar-beet in England was well worthy of the attention of the agricultural community.

After discussion it was unanimously resolved, on the motion of Mr. Müntz, seconded by Mr. Lloyd Wharton, M.P.:—"That in view of the national character of the experiments to be made in sugar-beet growing in the United Kingdom during the year, this chamber respectfully requests the President of the Board of Agriculture to take cognizance, and superintend the analysis of the beet grown, and publish the results during the autumn."

ANSWERS TO CORRESPONDENTS.

E. A. A.—We are very short of the number.

A. Co.—It is not out yet; you are sure to receive a copy in due course.

K. P. T and Co.—(1) We have sent the back number; (2) It will be ready shortly.

Parliamentary Jottings.

DUTIES ON COTTON OIL IN TUNIS.

In the House of Commons last week, Mr. Buxton asked the Under-Secretary of State for Foreign Affairs whether he was aware that the French Government had suddenly raised the duty on refined cotton oil imported into Tunis from 6f. to 35f per 100 kilogrammes; and whether he would make representations to the French Government on the matter.

Mr. Curzon.—I believe that the facts are as stated. But the duties in question are imposed on refined cotton oil not from Great Britain alone, but from all foreign countries; and inasmuch as this country is only entitled to most-favoured-nation treatment except in the case of cotton goods, there does not appear to be any ground for representation.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for November. The total shipments were 82,676,014 gallons, compared with 71,207,467 in 1896. The total for the eleven months ending November 30th, 1897, was 903,505,854 gallons, against 845,431,859 gallons during the same period in 1896. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Nov., 1897	6,022,268
,, ,, 1896	7,399,224
NAPHTHAS.	
Total, Nov., 1897	2,123,510
,, ,, 1896	1,174,309
ILLUMINATING.	
Total, Nov., 1897	70,195,972
,, ,, 1896	57,841,240
LUBRICATING AND PARAFFIN.	
Total, Nov., 1897	4,364,006
,, ,, 1896	4,548,794
RESIDUUM.	
Total, Nov., 1897	6,258
,, ,, 1896	333,900

Obituary.—On Tuesday news was received in Huddersfield that Mr. Thomas Holliday, the senior partner in the firm of Messrs. Read Holliday and Sons, manufacturing chemists, had died suddenly at Matlock during the night. He was some years ago president of the Huddersfield Chess Club; he was a director of the West Riding Union Bank, and was a county magistrate. He had been president of the Huddersfield Liberal Unionist Association, and was a Unitarian. In connection with the business of Messrs. Read Holliday and Sons he had patented many inventions and processes, and his latest venture was a plant for the making of acetylene gas, which he originated in conjunction with Mr. J. H. Exley. Mr. Holliday was about 57 years of age, and leaves a widow and three children.

Canadian Petroleum Law.—The Dominion Parliament has just enacted some drastic restrictions on the carriage of petroleum with a view to public safety. The new legislation provides that vessels carrying petroleum shall display a flag inscribed with the word "petroleum" by day, and in its place two red lights by night, where their cargo is not accompanied by an 85-deg. certificate under the Canadian Customs test. Any vessel which does not conform to this rule, and the cargo of which is of a lower degree than the Customs test, and consequently more easily inflammable, shall be ordered to leave any Canadian port it may enter. Henceforth vessels are confined to the use of hose in discharging petroleum, and this must be done in the hours of daylight.

Rivers Pollution Prevention Bill.—The principal object of this Bill, which has been introduced by Sir F. Powell (vide *C. T. J.* 561, p. 143), is to improve the law for preventing the pollution of streams by extending to county councils, joint committees, and river boards in England the main provisions of the Mersey and Irwell Act of 1892, and the West Riding of Yorkshire Rivers Act of 1894. Many provisions are in both Acts, but new clauses and provisions are added—to prevent the pollution of streams by canals; to qualify justices to act, though they are ratepayers; to empower any local authority to contribute to the expenses of a prosecution by any other authority; to empower the Local Government Board to order in certain cases the rating of areas specially benefited; to enable defendant to be witness in certain cases.

BRITISH ALIZARINE PRODUCTION.

IN the course of his recent address to the shareholders of the South Metropolitan Gas Co., Mr. G. Livesey stated that some 40 years ago tar was distilled simply for its naphtha, creosote, and pitch. Then the aniline colours were derived from it; and a spurt was given to its value. This was about the year 1860; and some 10 years later, it was discovered that from the anthracene derived from coal tar, alizarine could be produced, which was a perfect substitute for madder, or Turkey red. He might say that madder had been driven out of cultivation with anthracene at £140. a ton; and anthracene would at that moment realize only about £12. a ton. Yet, the only substitute that could be used in its place would not pay to grow, even if anthracene were at £140. a ton. Why was this? The fact was that rather more anthracene had been produced year by year than the market wanted. The trade had gone to the Germans—the colour makers. He did not blame them. They had simply shown themselves more clever than the English, in whose hands the trade originally was; and he might state that the firm of Messrs. Simpson, Maule, and Nicholson, on the expiry of their patent, let the trade go out of the country, and retired with large fortunes. Since then the Germans had controlled the trade, and the English were in their hands; and anthracene, which was produced in larger quantities than was required, had been gradually reduced in price until it had at last come down to the figure of about £10. or £12. a ton.

Mr. E. T. James, Secretary to the British Alizarine Co., Ltd., of Silvertown, E., takes exception to two of the above statements, and points out that in the first place, alizarine was never manufactured by the firm of Messrs. Simpson, Maule, and Nicholson; and next, it is not correct to state that "the trade had gone to the Germans—the colour makers." The manufacture of alizarine in this country was commenced in the year 1869 by Messrs. Perkin Bros., whose works, together with the patent rights, were purchased in the year 1874 by Messrs. Brooke, Simpson, and Spiller, who two years later disposed of them to Messrs. Burt, Boulton, and Haywood. In 1882, the latter firm transferred their alizarine business to this Company, the principal shareholders of which are the Turkey red dyers and calico printers of Great Britain. Since this Company was formed, our business has increased in volume nearly 150 per cent.; and the fact that we supply the bulk of the British demand does not coincide with the statement that "the trade had gone to the Germans"

THE "VOLOLO" STEEL CASK.

WE have frequently referred in our columns to the way in which the use of steel casks is extending, and it is hardly necessary to dwell further on the advantages that such casks offer for the storage of oils, volatile liquids, varnishes, boiler fluids, and a great number of other chemicals.

It is interesting, however, to be able to show to what size this steel cask industry has grown of late years. In doing so, the illustrations of the works of the Empire Steel Cask Co., Hunslet and Leeds, as prepared by "Oils, Colours, and Drysalteries," give a far better idea than words.

We also illustrate one of the "Vololo" casks, thus giving a better idea of their general construction and appearance. The "Vololo" cask has been adopted entirely by the Deutsche Amerikanische Petroleum Gesellschaft, of Hamburg, and also by several English and Foreign Railway Co.'s. A number are likewise in use by private firms for the transit of ether, whale oil, polishing lime, etc. It is a noteworthy fact that in the course of three years, during which many thousands of these casks have been put in circulation, only 18 have been returned for repairs.

The Works of the Empire Steel Cask Co.

Reports of Companies.

THE SALT UNION.

THE REMOVAL TO LIVERPOOL.

THE tenth annual meeting of the shareholders of the Salt Union was held on Monday this week, at Winchester House, London. The Hon. Lionel Ashley, the chairman, presided over a full meeting, and moved the adoption of the report. He said the very unsatisfactory results of their trade during the past year might be summarised as due to the decrease in the price of salt, to the decrease in the quantity sold, and to the increased cost of maintenance. This last factor had been created by the rise in the price of fuel, the principal item in the cost of production. To the United States there had been a decrease in the quantity exported of 26,000 tons, the figures for 1896 being 119,000 tons and for 1897 93,000 tons. This decrease was mainly due to the reimposition by the United States Government of the duty on salt, this reimposition being part of the Dingley tariff. There were many anomalies connected with the imposition and collection of this tax, and it would have the effect of raising freights from the United States to this country. They had, therefore, reason to hope that Americans might come to the conclusion that it was against their interests to tax so heavily an article which was used so largely in their packing and provision trade. To Russia, Finland, Sweden, Norway, and Denmark there had been a decrease, compared with 1896, of 18,000 tons, the figures being 71,000 tons in 1896 and 53,000 tons in 1897. This decrease was largely due to the scarcity of suitable ships of small tonnage, and to the high rates of freight which had ruled from Baltic ports. To the West Indies and South America there had been a decreased export of about 4,000 tons, and to Australia a decrease of 3,000 tons In this case also high rates of freight had caused shipments to decrease. There had been, on the other hand, an increase to British North America from 64,000 tons in 1896 to 71,000 tons in 1897, and an increase of 2,000 tons to Africa. To Holland, despite severe competition with German salt, they had had an increased tonnage by 3,000 tons. In Belgium, where they had to meet both German and French competition, they had in 1897 done as much trade as in 1896. He had referred at previous meetings to the excellent system of inland waterways on the Continent, which gave easy and cheap access for German and French salt products to neighbouring countries. They were in this respect hampered in the Cheshire and Worcestershire districts by the distance of their works from the ports of shipment. The heavy Weaver tolls of 10d. per ton on all their white salt and 5d. per ton on all rock salt, together with dock and town dues of 3d. per ton on both qualities at Liverpool, handicapped them terribly when competing with salt manufacturers whose works were close to the port of shipment. They obtained some time ago a reduction of 2d. per ton on the Weaver toll, and they hoped for some further concessions. They had not yet been able to get any reduction on the dock and town dues of Liverpool. They would continue to represent to the Dock Board that the dues on salt were out of proportion to dues on other goods, and that Liverpool ought to reduce their charges on that commodity to those made by other port authorities in other parts of England. The Weaver trustees had, during the year, removed the lock at Newbridge. They had already been enabled to place in commission the new steamer Monarch, which was the largest craft navigating the Weaver. To India shipments had increased from 212,000 tons to 256,000 tons. He mentioned at their meeting last year that although their tonnage sent to India in 1896 was less by 46,000 tons than it was in 1895, yet the prices realised had been much more remunerative, although they could not expect these prices to be maintained owing to increased shipments. This forecast had been realised, and prices in India in 1897 had been very much less than they were in 1896. Not only had prices been lower, but the cost of carriage to India had very largely increased, and they had further suffered in this their largest and, at times, most remunerative market from the effects of war, pestilence, and famine. They considered, however, that they had a permanent interest in Indian trade. If they compared 1891, when the present board became responsible for the management, with 1897, they found that the German exports to India had decreased 50 per cent., while their own exports had increased by 10 per cent. This was no doubt owing to the establishment of their various depôts in India. This increase of tonnage, in face of German competition, would have been impossible had they charged a high price. The difference in price between 1891 and 1897 was 7s. a ton, and therefore they would see what a sacrifice they had had to make in order to maintain their Indian trade. Another serious competitor had been sun-dried salt, but the consumption of this had been somewhat arrested. The coastwise trade from the various salt ports of this country showed a decrease of about 47,000 tons in 1897. This was partly owing to the scarcity of small ships, and to higher rates of freight, but especially to the very bad fishing results on the Scotch and English coasts. Their own decrease in sales from these causes had amounted to about 20,000 tons. Their domestic inland trade had during the year been well maintained as regarded tonnage, but the prices realised had been very low—in fact, lower than in pre-union times. This was the natural result of the competition caused by the high prices which were established previous to 1891. With respect to the

CHEMICAL SALT TRADE,

there had been a still further decrease during the year. He mentioned a year ago that in 1890 the amount of solid salt decomposed for making alkali was 602,769 tons; and in 1896 it was only 360,929 tons. The lessened demand for solid salt in 1897 as compared with 1890 might be taken at 254,000 tons. On the other hand, the amount of brine decomposed by the ammonia-soda process had increased from 27,400 tons in 1880 to 428,600 tons in 1896. The works that were taken over by the union were all laid out and equipped on the basis of a continuation of the demand for solid salt for chemical manufacture. They had therefore to face revolution in the trade, and to find a new way in which they could utilise their dormant capital and their stores of brine. He had said at a previous meeting that it might be desirable to use their resources for the manufacture of chemicals, and a number of patents and processes had been investigated by them. They had tried one during the year, and the results gave some promise of success. During the year £7,888. had been spent on new works, mainly in the development of their Middlesbrough properties, and also with a view of obtaining their due share of the trade. Some portion of the amount had also been expended on their soap works and plant at Winsford. This plant was now in full operation, and he hoped it would be a great source of profit. The amount for the acquisition of distribution agencies and covenants with vendors had been increased by payments due in 1897, and also by the sum paid for the acquisition of the distribution agency and covenants of Mr. Buckley Deakin. Now that the decision in the case of "Deakin v. The Salt Union" had been given they would be able to conduct their business with less expense and on commercial lines. They were still of the opinion that the acquisition of the distribution businesses and covenants with the vendors had been absolutely necessary for the welfare of the union, and they were now no longer at the mercy of the distributors. Their steamboats, barges, and rolling stock appeared at about £2,400. less than in 1896. During the nine years £19,000 had been written off for depreciation, £107,000. had been spent in improving and repairing their craft, and £149,500. in wagon and van repairs Therefore on these two assets, which appeared in their first balance-sheet at a cost of £325,000., they had spent in the nine years £275,000. out of revenue. The stocks of salt valued at cost appeared at about £9,000 less than in 1896, and of fuel and material at about £500 less. The sundry debtors were £18,000. less, and bills receivable and cash £46,000. less. On the debit side of the profit and loss account maintenance of plant appeared at £44 878, and the total amount they had expended in maintaining and improving their plant during the nine years had been £470,500. The administration expenses for the year had been £25,800., against £32,449. in 1896. Last year he stated that

THE BRINE PUMPING ACTS

were specially unfair to them. Their sufferings from subsidence had during the year increased, and they had taken counsel's opinion as to whether Messrs. Brunner, Mond, and Co. were not legally liable to them under the common law for the abstraction of their brine and the subsidence of their property. On being advised that they were so liable they again approached Messrs. Brunner, but all the modes they had proposed for settling the matter in a friendly way had been declined by that company. The gross profit on the sale of salt, brine, etc., showed a decrease of £86,548. in 1897 as compared with 1896. Fuel had cost them £10,000. more. The price realised had been on the average rather more than 10 per cent less in 1897 than in 1896, and 10 per cent. in price meant much more than 10 per cent. in the profit. He did not think that Mr. M'Dowell and his co-signatories to the circular which the shareholders had received had taken into consideration the very important question of price, which was really the main factor in their present position of the company. He maintained that the origin of the present position was owing to their predecessors in office and the measures which those gentlemen took. The present board had done all they could. They had carefully reduced prices, had effected considerable economies in the management, had brought serious law suits to a successful issue, and had freed the union from distribution agencies; and they had also developed and were developing many subsidiary sources of profit. They did not oppose the proposed removal of the head office to Liverpool, but they did not admit that their business had suffered in Liverpool. He believed that they would always have to have some kind of office in London. They had repeatedly said that the London directors would have to leave the board if the head office were removed to Liverpool. The shareholders had now made their choice, which involved the departure of the London board. Mr. Charles Mills and Mr. Thomas Ward, who retired from the board on that occasion, offered themselves for re-election, but only for a short period; and the London directors

ly retain office for a strictly limited period of three months. harles W. Mills seconded the motion.

OPPOSITION TO THE SHAREHOLDERS' COMMITTEE.

ıdment was proposed by Mr. Keen adjourning the meeting 28th inst., a full report of that day's proceeding to be in the e circulated among the shareholders. He strongly objected moval of the London board, and urged the shareholders to fore they placed themselves in the hands of a committee, some were interested in the trade. Dr. M'Dougal seconded the ent, and warmly commended the directors for having got rid infamous covenants" to which the chairman had referred. He that Sir Joseph Verdin would be willing to investigate certain which required looking into. He sympathised very warmly London directors. Mr. Griffith complained that the committee the shareholders no information. The chairman stated that tors had acquiesced in the policy of removal. A shareholder why Mr. M'Dowell had not mentioned the names of the ctors. On being put to the meeting the amendment was n a show of hands. The chairman, however, stated that the tes for the directors were 25,597 and for the committee 141,850. to a question, Mr. M'Dowell said that he could not agree to e opinion of the meeting on the question of adjournment. The f shareholders who were with him in his desire to remove the Liverpool was 3,048, while the number against the pro- s only 15.

A REPLY.

Valker (secretary of the committee) asserted that the desire of o brought forward the amendment was to introduce Sir James gain into the company's affairs. Dr. M'Dougal replied that ad no communication whatever with Sir Joseph Verdin. After iscussion the amendment was declared lost on the poll, and t of the directors was afterwards adopted. Mr. Mills and Mr. re re-elected to their seats at the board. The former gentle- eply, said he would do everything he could for the company remained on the board. He believed that what they would y have to do would be to induce the preference shareholders to r cent. and to scale down their capital to one-half or make the shares deferred and ordinary. Mr. M'Dowell afterwards pro- d Mr. Head seconded, a resolution approving the removal of office to Liverpool, and requesting the directors "to make ents for such removal with all convenient speed, having regard gencies of the business and the personal convenience of the irectors." After some opposition to the resolution the chair- t and declared it lost; but it was subsequently carried on a poll. resolution was also carried—on a poll—confirming the appoint- the committee appointed at the shareholders' meeting on 8th last "to approach the directors in a friendly spirit and to steps as they might think advisable with a view of improving gement and prospects of the company's business, and instructs mittee to use its best endeavours to strengthen the board of "

THE SANITAS CO., LTD.

enty-first ordinary general meeting of the members of the ompany, Ltd., was held on Monday at Letchford's Buildings, lt-lane, Bethnal Green, E., under the presidency of Mr. C. T. (the managing director of the company).

airman said: In the regrettable absence of Mr. Moll, who has any years presided over these annual meetings, I have been my colleagues to take the chair. With your permission I will ess my observations to the points in the report. In the first is my privilege to congratulate the shareholders upon the and increasing prosperity of the company. (Hear, hear.) have been larger than in any preceding year, and I am glad t the profit has also been larger than in any preceding year. nce dividend that we propose to pay will make, with the vidend already paid, a total distribution of 13¾ per cent. on paid shares. (Applause.) The shares numbered 50,001 to ve not been paid up in full for the whole of the year; so that e dividend and bonus on those shares work out at 1s. 2½d. instead of 1s. 9d., as in the case of the other shares. It is ion of the directors to immediately take steps to obtain a on the Stock Exchange for the other shares; so that we whole of the shares will very shortly be quoted on the Stock . Following our usual custom, we propose, with your o place rather more than an adequate amount to depreciation and goodwill, &c. We say &c. because there are some other enumerated there that have to be provided for. The sum in £1,600., and, after paying the dividends to which I have nd providing for this depreciation, we shall carry forward to next balance of £1,141. During the year we have added two new ıres to our list—namely, Sanitas Embrocation and a new kind of disinfectant soap. The embrocation is a somewhat important innovation; it is a departure from the manufacture of disinfectants, and the opening of a new field on which, having embarked, we are likely to proceed at an increasing rate in the future. Of course, we have very strong vested interests to fight against—I mean many important competitors—but I have no doubt that in course of time, by adequate attention to the business and by spreading a knowledge of the good qualities of our embrocation, we shall succeed in getting a fair share of the trade in that article. I may mention that the results attending the introduction of the article have already been of a very satisfactory nature. (Applause.) It was partly in consequence of having embarked upon this new manufacture, and the contemplation of other new industries, to which I cannot at the moment make further reference, that we have been obliged during the year to take additional premises on tenancy from the Great Eastern Railway Company, consisting in the main of several arches and considerable yard space. These premises have been fitted as found necessary, and are now in full and regular work. The City depôt, which we opened some two years and a half ago, has been closed. Originally we intended to use it chiefly as an advertisement, and in the second place to oblige many of the wholesale dealers by rendering it unnecessary for them to send down so far as Bethnal-green to obtain small supplies, more particularly of those articles which are not so well known and widely used as our leading preparations are. But we found by experience that the wholesale houses failed to avail themselves of the privileges to the extent we anticipated, and in the end we came to the conclusion that we had had as much of the advertisement as we wanted, and that it was not worth our while keeping it open any longer. We therefore closed it, and I am glad to say that we transferred the lease without any loss—in fact, we made a small profit on the transaction. Now I come to the most important step that the directors have taken during the past year, namely, the acquisition of the business of the American and Continental Sanitas Company as a going concern for the sum stated. There is one other matter to which, perhaps, it will not be inadvisable that I should make brief reference before resuming my seat, and that is undue competition. From time to time throughout our history we have had to face undue business competition. In the particular case to which I am referring—I will not use the term dishonesty, but through inadvertence, perhaps—that was the plea of the defendant—the defendant was trading as the Sanitants Manufacturing Company, and was selling disinfectants in packets, no doubt intending as he stated in court, presently to sell disinfectants in other forms. Immediately the matter came to our knowledge we placed it in the hands of our solicitors, and I am glad to say that without going to trial the motion was treated as the trial of the action, the defendant submitting to a perpetual injunction with costs. I only hope that due publicity of that fact will restrain some other unfair competitors from trying to attain wealth and success at the expense of this company without deserving it. With these remarks I beg to move: "That the report and accounts now submitted be approved and adopted." The motion, of course, will be understood to carry the payment of the dividends recommended by the directors. (Applause.)

Mr. M. Zingler seconded the motion, which was then put and carried unanimously.

THE BORAX CO., LTD.

An extraordinary general meeting of the ordinary shareholders was held on Tuesday at Winchester-house, the Hon. H. A. Lawrence in the chair, to consider the confirmation by an extraordinary resolution of an agreement for reducing the capital of the company. The Chairman, in proposing the resolution, observed that those who had attended former general meetings and had watched the affairs of the company would not be surprised that they had come to the conclusion that the proposed reconstruction was necessary. He had often referred to it at previous meetings, and all that they had had to consider was what arrangements they could make with their debenture holders and what proportion of the writing down of capital should be borne by each class of the shareholders. The first point was the most difficult, but finally a committee of the debenture holders was appointed to consider the position. They had paid no dividend practically for four years, and for the same period they had not actually earned sufficient to meet their debenture charges. The debenture-holders' committee issued a circular, and the directors had adopted the proposal made therein. He thought that they had cause to thank the debenture-holders for their consideration. Although the effect of their proposal would be that they would be practically no nearer a dividend than they were before, unless the affairs of the company went much better than they had done in the last two years, yet it would help them in this way—that the debenture-holders had given up the 20 per cent. premium on the drawings of their bonds, and had agreed to reduce the interest from 6 per cent. to an average of 5 per cent. The total amount accruing yearly to the service of the new debentures would thus be appropriated less to interest and more to sinking fund than at present; and this would enable them to

pay off their debts much quicker. With regard to the two classes of shareholders, it was very easy to see that the bulk of the writing down of capital must be borne by the deferred shareholders, whose position was extremely bad He thought, however, that the ordinary shareholders were bound to give the deferred shareholders some consideration in order to bring them into the scheme. In clause C of the directors' circular to the shareholders there was a slight error. It was stated that "the sums required for both classes of debentures are entirely dependent on profits, and thus no default can occur." What the debenture-holders intended and wished was that the A debentures should be a mortgage bond, not entirely dependent on profits, although dependent to a great extent. The directors had altered the scheme to this extent, which they were bound to do. The A debentures would now practically be mortgage bonds, but the holders had agreed that they would have no power of foreclosure unless at least three half-yearly coupons should be in arrear. The B debenture would be an income bond. The motion was seconded and carried unanimously. The agreement was afterwards approved at a meeting of the deferred shareholders, and subsequently at a general meeting of the two classes.

Trade Notes.

Mercury Ore in Hants.—A find of quicksilver ore is reported from Swanwick, near Netley, Hants. It was made by some workmen who were excavating a trench, and a considerable quantity of the raw material was extracted and forwarded to experts for investigations. The discovery has caused much interest, Hampshire being practically free from metallic deposits.

Manchester Chemical Club.—A smoking concert will be given in the Victoria Hotel, Manchester, on Friday evening, March 18th. The chair will be taken at eight o'clock prompt. The programme of the concert has been arranged, and will be under the direction of I. M. Irving, Esq.

Gerona Copper Co., Ltd.—As official selling brokers to the above company, Messrs. Blackwell and Co., of Leadenhall House, London, E.C., advise us that they have received information from Captain Rowe (the manager of the mines) that he has struck the main reef of copper ore in the new shaft at 73 feet from the surface.

Jeyes' Sanitary Compounds Company, Limited.—At the annual general meeting, held on Thursday week, a dividend was declared, after making provision for depreciation, &c., and placing £4,000. to reserve, at the rate of 10 per cent. per annum, together with a bonus of 5 per cent., the whole tax free. A balance of £681. was carried forward.

Nitrate Statistics. The Permanent Nitrate Committee's public statistical circular states that the total exports of nitrate of soda to Europe for February were 1,154,000 quintals; loading for Europe, March 1, 932,000 quintals; imports, Europe, February, 81,300 tons; deliveries, Europe, February, 194,610 tons; visible supply, Europe, March 1, stocks and afloat, 554,400 tons.

Purchase of the Erie Chemical Co.'s Works.—The Franklin H. Kalbfleisch Company, of New York, has purchased the works of the late Erie Chemical Co., which were recently sold at auction. The Company was one of the pioneers of bleach manufacture in the States. The plant will be renovated and worked by the Kalbfleisch Company in the near future.

Not to be Caught Napping.—With reference to the proposed combination of the American Standard Oil Trust with the Netherlands-India Mocara Enim Petroleum Company, referred to last week, we learn from Amsterdam that the scheme is considered to have collapsed, as the Dutch minister for the Colonies has declared that he is not prepared to convert the present concession for three years into a definitive concession if the scheme is proceeded with.

Society of Chemical Industry: *Liverpool Section.*—A smoking concert will be held at the Reform Club, Dale-street, on Wednesday, March 9th, at 8.30 p.m. Arrangements have also been made for members to dine together at the Reform Club, at 7 p.m.; friends may be introduced. Dinner tickets, 5s. each. Morning dress. Members are requested to make application for tickets, both for themselves and friends, at the earliest possible date.

Society of Chemical Industry: *Manchester Section.*—The fifth ordinary meeting of the session took place on Friday, 4th inst., at the rooms of the Chemical Club, Victoria Hotel, Manchester, when the following was the business:—(1) Adjourned discussion on Mr. J. Carter Bell's paper on "The Oxygen Test as carried out in the laboratory of the Mersey and Irwell Joint Committee;" (2) A paper on the production of "Metallic Iannate Lakes of Basic Colouring Matters on Cotton Cloth," by R. J. Flintoff, F.C.S., etc.; (3) A paper on the comparative effect of "Lime and other Chemicals upon Liquids containing Organic Matter," by the Secretary.

Petroleum Statistics.—The European Petroleum Company, Limited, announces that by telegraphic advice received from its Baku manager on Saturday it was informed that the production for the last week was 185,219 poods, or 2,986 tons.

Scaffold Accident at Runcorn.—At the Castner-Kellner Electrolytic Chemical Works, Weston Point, Runcorn, last week, a scaffolding in the fitting shed gave way. Five men engaged white-washing the ceiling were precipitated to the concrete flooring, a distance of twenty-five feet. Albert Dillon received serious injuries to the spine and head, and lies in a critical condition. The other men were severely shaken and bruised about the head and body. Several men underneath the scaffold had narrow escapes.

Tenders Wanted.—The Secretary of State for Foreign Affairs has received a despatch from Her Majesty's Chargé d'Affaires at Madrid, stating that tenders are invited by the Spanish Government for the purchase of the monopoly for the importation, exportation, refining, and sale of petroleum and other mineral oils. The monopoly is to be put up to auction at the Ministry of Finance on March 23rd, at 4 o'clock p.m. Further particulars as to the conditions for tender may be inspected at the Commercial Department of the Foreign Office any time between the hours of 11 a.m. and 5 p.m.

Manufacture of Metallic Tungsten.—The Rithill Wolfram Mining Company, Ltd., who own mines in Cornwall, have acquired works at Millersfield, Dalmaronock, Glasgow, where they are erecting plant for extracting tungsten by a patent process. The metal is in demand for toughening steel, in which connection it already has a good reputation with the trade as compared with nickel and other metals. As these are the first works of the kind in this country, their progress will be watched with much interest. The works have been designed by Mr. Andrew Millar Wilson, of Partick, under whose personal supervision they are being erected.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are quiet at 1/4 for 90's, and 1/6 for 50/90's. There is practically nothing fresh to report concerning carbolic acids and naphthas. The former keep firm and move off well. Creosote is about the firmest and most active of tar products. Pitch is dull at 18s. 6d. to 19s. 6d. f.o.b. East Coast.

The position of ammonium sulphate is not as firm as it might be. The fact that stocks are low, and that the season of short production is close at hand, helps to prevent any serious anxiety on the part of makers, but the persistent way in which nitrate keeps low is not altogether reassuring. For forward, Beckton is offering at £9. 15s. for April-June delivery. Closing prompt values are: London outside makes £9. 15s., Liverpool £9. 15s., Hull £9. 13s. 9d., and Leith £9. 13s. 9d. to £9. 15s.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkali trade is somewhat irregular, and prices on the whole seem to lack stability. This is no doubt due to the excessive reductions and competition. Ammonia alkali is maintained at the convention price of £4. bags, f.o.r. makers' works, but is subject to considerable variation for export trade. The caustic soda quotations meantime, both for early and forward delivery, are unchanged, viz., 77%, £8. 5s.; 74%, £8; 70%, £7. 5s.; 60%, £6. 5s., 10-ton lots f.o.b. Liverpool. Soda crystals and bicarbonate are in steady demand. For bleaching powder there is good inquiry, both for home and export trade, and there is no change in values, present and forward delivery being quoted for home trade at £5. 2s. 6d. f.o.r. In chlorates prices are still inclined to fall, soda 3⅞d. and potash 3⅛d. to 3¼d. per lb. Saltcake moving freely at 17s. 6d. to 18s. per ton, in bulk, f.o.r. Sulphur £4. 10s. nett, makers' works. Sulphate of copper steady and price nominally at £16. 10s., f.o.b. Liverpool, but business is only moderate in extent. White powdered arsenic is a little uncertain at the moment. Some sellers of outside makes are quoting rather lower prices, but nearest spot value is £20. 10s. f.o.r. Garston, £21. London. Brown acetate of lime continues firm and supplies are not abundant. Spot prices £5. 15s. to £6. c.i.f. U.K. ports. White sugar of lead was advanced by German makers last week to £24. 10s. c.i.f. U.K. ports. English makers £25. Acetic acids rather firmer. Acetate of soda is dearer. Other acetates quiet. Prussiate of potash rather weaker at 6d. per lb.; cyanide 1s. per lb.; borax and boracic acid still continue to offer at low prices. Potash, caustic and carbonate, are in good demand, but values do not improve. Carbonate 90% is offering at lower prices. Nitrate of soda 7s. 6d. per cwt. Sulphocyanides are

neglected. Aniline oil and salt are more freely offered at declining prices.

REPORT ON MANURE MATERIAL.

The increased interest in mineral phosphates continues, and it is now difficult to buy the highest grades—the raisers having large contracts over the year, and being obliged to calculate upon a small production during the year. For 77/80% Florida the value can hardly be put below 6¼d. per unit The quotations for Tennessee 77/80% remain at 5½d. per unit. Owing to pressure for deliveries the quotation for 58/63% Algerian rock is 5¼d. per unit for early shipment, but for later shipment 5⅛d. per unit would still be accepted. For South Carolina 5½d. per unit is quoted, but this is rather above its actual selling value.

The quotation for East India bone meal remains £4 5s per ton, fair average quality.

Deliveries of nitrate of soda continue on a satisfactory scale, but the quotation remains 7/6 per cwt for fine quality.

In miscellaneous material there is nothing special to comment upon.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 46s. 6d.; Middlesbro', 40s. 10d. cash; and hematite, 49s. 6d. Copper quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 7s. 6d. to £50. 12s 6d. cash, and £50. 13s. 9d. to £50. 18s. 9d. three months. Tin easier: Straits closed at £64. 17s. 6d. to £65. 7s 6d. cash, and £65 8s. 9d. to £65. 18s. 9d. three months; Australian, £65. 10s.; English ingots, £67. 10s. Lead firm: Spanish, £12. 10s. English, £12. 12s. 6d. Silesian spelter, ordinary, £18. 2s. 6d. to £18. 5s. Nickel, 1s. 2½d. Antimony, £31. Quicksilver: First hands, £7. 2s. 6d.; second hands, £7. 2s. *Copper shares* quiet: Cape, 4¾ to 4⅞; Copiapo, 2 8/16 to 2 7/16; Libiola, 2⅝ to 2⅞; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, 28 15/16 to 29 1/16; Tharsis, 7⅛ to 7⅜.

GLASGOW, Wednesday.—Market irregular, and a small business. Scotch done at 46s. 6d., 46s. 5d., and 46s. 6½d. cash; also at 46s 8d. and 46s. 9d. month; buyers, 46s. 6d. cash; sellers, ½d. more. Cleveland done at 40s. 10½d. cash, and 41s. 0½d. month; buyers, 40s. 10d. cash; sellers, 40s. 11d. Cumberland hematite done at 49s. 6½d. five days; buyers, 49s. 6d. cash; sellers, 49s. 7d. Middlesbrough hematite, buyers, 51s. cash; sellers, 51s 6d.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is firm, but this is accounted for by the scarcity, which is sufficient to reduce sales to a very low ebb. Olive is only moving gently, and the market is quiet at £33. to £33. 10s. per tun for Spanish. Linseed is steady, with Liverpool makes at 17s. 3d. to 17s. 6d. per cwt., in export casks. Cottonseed presents no fresh feature, prices for Liverpool refined ranging from 15s. 3d. to 15s. 9d., and steady at that. Castor is firm and in good request at 3 5/16d. per lb. for both good seconds Calcutta and first pressure French. Tallow is strong and in good demand, with a rising tendency in prices, beef having been well sold at an advance of 3d. at the London auctions. Resin is only in fair request, but recent values remain without alteration. Spirits of turpentine firmer at 25s. per cwt, with a moderate business doing. Petroleum steady, with American rather dearer at 5¼d. to 6½d. Russian refined unchanged at 4⅝d. per gallon.

CAKES.—The market for American Western linseed on the spot has remained steady in tone, with a fair business doing at £6. 7s. 6d. to £6. 12s. 6d. Liverpool makes have been firm, with a fair inquiry, at £8. 5s. to £8 10s. per ton, according to brand. There is rather a firmer feeling in the market for American decorticated cottonseed cakes, and with more doing in good to choice brands the quotation is now given at £5 10s to £6, whilst Liverpool makes have continued steady and unchanged at £5. 5s. to £6 10s per ton, with fair sales thereat. Liverpool undecorticated makes have been fairly active, and the recent quotation is well maintained. Egyptian on the spot are also the turn in sellers' favour at £3. 18s. 9d to £4. per ton, with a fair inquiry experienced thereat for spot parcels.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—The advances recorded last week have been maintained fairly well, especially linseed oil, which promises for the present to hold its own, owing to the scarcity of seed for near delivery. Refined cottonseed oil does not hold so strong a position, and no doubt will have to recede The imports to date have been, as against the same time a year ago:—Linseed, 46,224 quarters against 64,023 qrs.; rapeseed, 16,927 qrs. against 14,234 qrs.; cottonseed, 62,603 tons against 39,417 tons; oilcake, 3,056 tons against 2,102 tons; olive oil, 640 tuns against 623 tuns; tar, 607 barrels against 130 barrels. Linseed oil is quiet at 15s 3d. per cwt. spot naked; March-April, 15s 6d., May-August 15s. 9d. asked. Boiled and refined, £1. to £1. 10s. per ton extra. Refined cotton oil flat, and quoted 13s. 1½d. spot naked; forward, March-April, 13s. 3d., May-August, 12s. 7½d. Filtered oil is quoted £1. 5s. per ton extra, whilst crude, spot, is quoted 11s 10½d. barrels, £1. 10s. and ordinary casks £1 per ton extra. A new feature introduced here is the adoption of tank wagons for conveying refined cotton oil by rail. Castor oil in all positions is unchanged. Olive oils, position unchanged; the importation of about 600 tuns as representing this year's consumption appears small. Olive oil soaps move off freely, with prices unchanged Resins are quoted from 4s 9d. per cwt. for large quantities. Turpentine, 25s. to 25s. 3d. per cwt. Brown Yorkshire grease from £7. per ton. Cod oils, £15 10s to £18 per ton. Oleines unchanged.

CAKES.—The present open weather tends to keep down the demand for feeding stuffs, yet prices remain firm. Linseed cakes dearer: 95% pure, £8. 10s. to £8 12s 6d. per ton. Oil cakes (linseed), £7. to £7. 2s. 6d.; Russians, £7. 12s. to £7 15s. Cotton cakes, steady: best makes, £4 1s. 3d. to £4 2s. 6d.; seconds, £3. 17s. 6d. to £3. 18s 9d.; decorticated, £6. to £6. 2s. 6d.; meal, £5. 12s. 6d. to £5. 15s. Rape cakes, Black Sea, £4. 2s. 6d. per ton.

PAINTS.—The demand continues to improve slowly. White and red leads continue to hold firm positions. Ordinary colours in oil from £9. Disinfecting powder: 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. per ton. Black varnish, £5. per ton, in barrels free.

TYNE CHEMICAL REPORT.

Tuesday.

There is nothing fresh to report in the chemical trade. Business continues dull, though a better trade is anticipated with the approach of the shipping season. Caustic, 76/77%, is £8. 15s. and £9, and 70% £7. 10s. per ton. Soda crystals are £2. 12s. 6d per ton, gross weight, Sulphur £4. 15s. to £5 per ton.

Bleaching powder, softs, £6. per ton, nett; do. hards, £6. 5s. per ton, nett; caustic soda, 76/77% £9. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. 10s. per ton, nett; do., 50%, £4. 12s. 6d. per ton, nett; do., 52%, £4. 15s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—Trade is quiet and market generally dull. Coke is in rather better demand for local consumption, both at blast furnaces and foundries. To-day's quotations are:—Best Northumbrian steam, 8s. 3d. to 8s. 6d. per ton; second qualities 7s. 3d. to 7s. 6d. per ton; small steam, 3s. 3d. to 3s. 6d per ton; gas coals, 7s. 9d. to 8s. 3d. per ton; household coals, 10s. to 11s.; coke, 17s. to 21s. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

Sulphate of ammonia remains in a species of dead-lock. Makers are exceedingly unwilling to permit the article to embark on the downward course again, and indeed one or two of the largest producers have no sulphate at all to offer for prompt. Some over-bought middlemen are responsible for the few sales that have been done at anything below £10. Buyers keep holding off as if expectant of some considerable slackening of prices. The just mark of prompt Leith value is the

moment is £9. 17s. 6d., although not every maker will take that. Forward indications are non-existent or unreliable. In the other chemicals quietness chiefly prevails, and there is no price change of any note, sulphate of copper only being a little easier. In mineral oils and solid paraffins the old prices are retained. End of the consumptive season for burning oils approaches, and although the winter has been a very mild one, some of the makers find themselves now well bared of stocks.

Chief prices current are:—Soda crystals, £2. 10s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 5s, 60/62° £6. 5s., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3⅜d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 17s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £35 and £33 nett, any port; sulphate of copper, £16. 7s. 6d. to £6. 10s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were *nil*.

New Companies.

Buffalo Disinfectant Co., Ltd.—Capital £6,000. in £1. shares (2,000 6% cum. pref.). This company has been formed to acquire the business of disinfectant manufacturers carried on at Eastern-road, Plaistow, Essex, as the "Buffalo Disinfectant Co.," to adopt a certain agreement, and to manufacture, sell, and deal in fluid or solid disinfectants, soaps, and ointments.

Weygang's Oil Products Co., Ltd.—Capital £150,000 in £1. shares. This company has been formed to adopt an agreement with C. A. Verner, and to manufacture, sell, import, export, refine, and deal in petroleum, and other mineral oils, and the products thereof

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 19th.

Acetic Acid—
Holland, 110 pks A. & M. Zimmermann
" 50 Phillipps & Graves

Acetone—
Austria, £500 Thames S. T. & L. Co., Ld.
Germany, 50 "

Acids—
Holland, 98 pks. Little & Johnston

Alkali—
France, 112 c. J. Barber & Co.

Alum—
Holland, 25 cks. W. Balchin, Ld

Antimony Ore—
Australia, 4 t. F. H Spence & Co.

Asbestos—
Germany, £84 Craven & Co.
U. States, 250 Deering & Robottom

Barium Chloride—
Germany, 31 pks. Gas Light & Coke Co.

Barytes—
Belgium, 71 pks. W. Harrison & Co.
Holland, 45 E. J. Diggins

Bleaching Powder—
Germany, 162 pks. J. M. Steel & Co.

Bones—
Germany, 25 t. E. Groschke
" 26 D. de Pass & Co.

Bromide of Iron—
Germany, £471 A. & M. Zimmermann

Caoutchouc—
P.W.Africa, 96 c. L. & I. D. Jt. Co.
Germany, 18 Butler's Wf., Ld.
Zanzibar, 122 L. & I. D. Jt. Co.
Madagascar 30 Kleinwort, Sons & Co.
France, 112 H Johnson & Sons
Germany, 16 Prop. Bull Wf.

Carbolic Acid—
Germany, 25 pks. Blagden, Waugh & Co.

Castor Oil—
France, 10 brls. Mordaunt Bros.
" 7 11 cks. F. Boehm
" 15 Anderson, Weber & Smith
E. Indies, 14 J. W. Cook & Co., Ld.
Belgium, 40 brls. C. & E. Morton
Italy, 50 cs. H. F. Love & Co.

Caustic Potash—
Germany, 170 pks. J. M. Steel & Co.
France, £126 W. E. Cole
" 100 Petri Brs

Chemicals (*otherwise undescribed*)
France, £110 Mory & Co.
U. States, 15 Beck & Pollitzer
Belgium, 12 O. Scholzig
" 69 John Cockerill Line
Holland, 12 32 pks. T. H. Lee
U. States, 660 W. Groves
Holland, 30 pks. A. & M. Zimmermann
Belgium, 270 T. Palmer
Germany, 35 F. Smith
" 317 £36 A. & M. Zimmermann
Holland, 10 J. Owen
Belgium, £62 T. H. Lee
Germany, 1 ck. Brit. Anti-Foulg. Comp & Pt. Co

Cream of Tartar—
France, 1 pk. B & F. Wf. Co.
" 4 C. Atkins & Nisbet
" 5 W. C. Bacon & Co.
Spain, 5 F. C Devon & Co.

Dyestuffs—
Aniline
Belgium, 14 pks. W. Gerson & Co
Germany, 13 Butler's Wf., Ld.
Argols
France, 2 pks. J. Laing, Son & Co.
Italy, 67 Thames S. T. & L. Co., Ld.
Cochineal
Canaries, 30 pks. Hendry & Martin
" 18 Kuhner, Henderson & Co.
" 9 Swanston & Co.
Canary Is., 36 Campion & Co., Ld.
" 25 Hendrey & Martin
Cutch
Rangoon, 400 pks. Hicks & Ashmore
" 250 Hoare, Wilson & Co.
Extracts
Germany, 25 cks. T. H. Lee
Belgium, 16 pks. "
France, 200 "
Holland, 33 J. Norrenberg & Co
Austria, 100 Boutcher, Mortimore & Co.
U. States, 20 W. C. Barnes & Co.
France, 50 B. & F. Wf. Co.
Fustic
B. W. I., 31 t. Thames S. T. & L. Co. Ltd
Indigo
E. Indies, 10 chts. Phillipps & Graves
" 51 Ralli Brs.
" 57 Hall & Wilson
" 22 E. Bower & Co.
" 15 Dipnall & Co.
" 2 T. Barlow & Bro.
" 12 Lewis & Peat
" 32 Ogilvy, Gillanders & Co.
" 105 113 pks A. B. Curtis & Co.
" 8 cs. H. J. Perlbach & Co.
Belgium, 1 John Cockerill Line
E. Indies, 2 chts. Wrightson & Son
" 25 Croysdale & Co.
" 15 Thomasset & Co.
" 7 W. France & Co., Ld.
" 8 Elkan & Co.
" 102 P. & O. Co.
U. States, 2 Lewis & Peat
E. Indies, 194 L. & I. D. Jt Co.
" 24 J. Karpeles & Co.
" 302 J. W. Cook & Co., Ltd.
" 17 R. Von Glehn & Sons
" 4 Walker, Munsie & Co.
" 56 P. Macfadyen & Co.
" 47 Parsons & Keith
" 37 J. Kenyon & Sons
" 40 pks J. Owen
" 8 chts. A. Young & Co
" 4 Arbuthnot, Latham & Co.
U. States, 5 cs. L. & I. D. Jt. Co.
Madder
Holland, 2 cks. Colthurst & Harding
Saffron
Spain, 1 pk. J. Mullet
" 1 C. Brumlen & Co.
Shumac
Italy, 208 pks. A. Laming & Co.
" 61 W. France & Co., Ld.
Tanners' Bark
Holland, 1 t. J. Forsey
Belgium, 12 Leach & Co.
Cape, 28 A. & W. Nesbitt

Farina—
Holland, 230 pks. G. Hornzee
" 200 R. Bennett & Co.
" 100 W. H. J. Alexander
" 50 J. Knill & Co.
" 150 J. Barber & Co.
" 80 H. Lorenz

Glucose—
U. States, 500 pks. 500 c Lunham & Moore
" 40 40 Laughland, Mackay & Co.
" 1,000 1,000 G. Clark & Sons
" 5,500 5,500 Pearce, Pelly & Co.
" 50 300 Page, Son & East
" 20 100 J. Barber & Co.
France, 200 200 J. Fulford
" 200 200 W. E. Cole
U States, 200 200 L. & I. D. Jt. Co.
" 1,000 1,000 E. Thompson & Co.
" 250 250 Trier, Meyer & Co.
" 50 288 J. Keiller & Son, Ld.
" 100 600 E. & T. Pink
" 50 300 A. B. Curtis & Co.
" 50 295 A. E. Piggott
France, 200 200 W. Paterson & Son
U. States, 3,350 11,392 R. G. Hall & Co.

Glue—
Germany, £80 M. D. Co.
Belgium, 1,282 J. Barber & Co.
U. States, 84 L. P. D. Co.
Germany, 35 Ohlenschlager Brs.
Holland, 54 T. H. Lee
France, 75 Hernu, Peron & Co.
" 26 J. W. Cook & Co.
" 14 Mory & Co.
Belgium, 45 T. H. Lee
France, 64 L. & I. D. Jt. Co.
Holland, 110 Ohlenschlager Brs.

Litharge—
Holland, 46 pks. Spies Brs.

Manure—
Sydney, 6 t. G S. Yuill & Co.

Methyl Alcohol—
France, 17 cks. E. J. Catlin
Belgium, 4 pks. "

Mica—
Madras, £608 W. M. Smith
Japan, 15 L. & I. D. Jt. Co.
Madras, 60 W. Brandt, Sons, & Co.

Molasses—
U. States, 518 cks. 3,296 c. Seaward Brs., Ltd.
" 50 275 Ohlenschlager Brs.

Ochre—
France, 4 pks. O'Hara & Hoar
" 30 Lon. & Til. Ltge. C. & D. Co.
Holland, 11 Phillipps & Graves
France, 200 E. Cartwright, Ltd.

Oxalic Acid—
Norway, 65 pks. M. D. Co.

Phosphate of Lime—
Algeria, 1,600 t. Odams Manure & Chemical Co.
France, 200 A. Hunter & Co.

Pitch—
France, 120 brls. L. & I. D. Jt. Co.
" 120 Poth, Hille, & Co.

Plumbago—
U. States, 14 cks. Lunham & Moore
Ceylon, 372 Lon. & Til. Ltge. C. & D. Co.
Germany, 37 B. Gallaway
Ceylon, 85 Doulton & Co.
" 88 R. G. Hall & Co.
" 334 Morgan Crucible Co., Ltd.

Potassium Bicarbonate—
Holland, £45 A. & M Zimmermann

Potassium Carbonate—
France, qty. Petri Brs.
Germany, 20 c. A. & M. Zimmermann
France, 60 J. A. Reid

Potassium Chloride—
Germany, £320 Perkins & Homer
" 240 F. W. Berk & Co., Ltd.

Potassium Cyanide—
Germany, 225 pks. F. C. Devon & Co.

Pumice Stone—
Messina, 7 t. Taylor Brs.
" 1 G. W. Largen
" 10 J. Greig
Italy, 11 W. J. Davies & Sons
" 6 Hodkinson & Co.

Rosin—
U. States, 100 brls. Soundy & Sons
" 1,250 T. Wickels & Co.
" 1,119 Prod. Brokers' Co.
" 62 American Trading Co
Sava'nah, 1,750 Chiesman & Co.
Holland, 3 cks. J. Owen

Rosin Oil—
France, 60 brls. Barratt, Tagant, & Co.

Saltpetre—
Germany, 5 cks. L. & I. D. Jt. Co.
Bengal, 1 bg A. B. Curtis & Co.
Holland, £120 J. Owen

Sodium Acetate—
France, £57 Burnett Brs. & Sons

Starch—
U. States, 125 brls. Beck & Pollitzer
Germany, 210 pks. Seaward Brs.
" 110 cs. Phillipps & Graves
Holland, 120 Hernu, Peron, & Co.
" 130 Philipps & Graver
Germany, 570 Horne & Co.
Belgium, 350 E. & T. Pink
" 200 Becker & Wagner
" 90 T. H. Lee
" 70 J. Harrison

Stearine—
Belgium, 125 bgs. G. E. Banes
France, 100 H. Hill & Sons

Sulphur—
Spain, 100 t. J. Forster
" 100 W. C. Bacon & Co.
Italy, 10 F. C. Devon & Co.
" 7 J. Kitchin, Ltd.

Tar Salts—
Holland, £400 J. Owen

Tartaric Acid—
Holland, 8 pks. Kirkpatrick, Barr, & Co.
" 19 B. & F. Wf. Co.
" 35 F. C. Devon & Co.
Belgium, 30 "

Tartars—
Italy, £570 Howards & Son

Ultramarine—
Holland, 5 pks. J. Barber & Co.
Holland, 25 Thames S. T. & L. Co., Ltd.
France, 60 Tyne S. S. Co.

Varnish—
Germany, 17 pks. Butler's Wf., Ltd.
France, 2 Mory & Co.
Belgium, 18 T. H. Lee
U. States, 31 Williams,
31 brls. Torrey, & Co.
France, 42 pks. Suter, Hartman, & Co.

Waste Salt—
Germany, 30 t. Perkins & Homer

White Lead—
Belgium, 45 pks. T. & W. Farmiloe, Ltd.
Holland, 93 "
Austria, 24 M. D. Co.
Belgium, 28 J. L. Lyon & Co.
Holland, 1 Spies Brs.
Belgium, 9 Leach & Co.
Holland, 20 N. J. Fenner & Co.
" 9 15 cks. Randall Brs.
" 25 A. Zumbeck & Co.

Wood Pulp—
Holland, 69 pks. T. H. Lee
Sweden, 272 C. S. Lovell
" 18 W. D. Cork
Holland, 40 G. Rahn & Co
Belgium, 281 W. G. Taylor & Co
Holland, 3,500 Little & Johnston
Sweden, 63 Henderson, Craig, & Co.
" 99 M. D. Co.

Zinc Oxide—
Holland, 50 pks. C. Poulter
" 98 J. Stratton
U. States, 330 brls. M. Ashby, Ltd

LIVERPOOL.

Week ending February 17th.

Acetate of Lime—
Portland, M., 621 sks. Bellhouse, Dillon & Co.
New York, 2,315 bgs.

Barytes—
Rotterdam, 20 cks.

Bone Ash—
San Nidolas, 104 bgs. R. M. Hudson

Bone Black—
Philadelphia, 30 brls.

Camphor—
Hamburg, 1 brl.

Caoutchouc—
Havre, 403 pks. Cunard S. S. Co., Ld.

Castor Oil—
Calcutta, 179 cs. Ralli Brs.
Leghorn, 20

Chemicals *(otherwise undescribed)*
Genoa, 9 cks.

Cream of Tartar—
Oporto, 2 cks. Sachse & Klemm
Bordeaux, 28

Dried Blood—
San Nicolas, 165 bgs. R. M. Hudson

Dyestuffs—
Argols
Oporto, 27 cks.
Patras, 8 brls. M. D. Frangopulo & Co.
Cochineal
Gd. Canary, 38 bgs. Kennedy & Moon
Shumac
Palermo, 1,400 bgs. 100 bls.

Farina—
Fiume, 80 bls.

Flux Skimmings—
Philadelphia, 2 brls.

Gelatine—
Antwerp, 5 bls. J. T. Fletcher & Co

Glucose—
New York, 150 brls.
Baltimore, 300
Rotterdam, 20 cks.

Glue—
Rouen, 70 bls. 19 cks. Co-op. W'sale Society, Ld.
Stettin, 100 bgs.
Fiume, 120
Rotterdam 232

Infusorial Earth—
Portland, M., 370 bgs.

Iron Oxide—
Trieste, 6 cks.
New York, 1 brl. Langstaff & Co

Limestone—
Antwerp, 2 cs. J. T. Fletcher & Co.
4 pks.
" 1 crt.

Litharge—
Rotterdam 4 cks.

Ochre—
Rouen, 20 cks. R. J. Francis & Co.
" 235 Co-op W'sale Society, Ld.

Paint—
Hamburg, 5 cks. 20 dms.
Boston, 1 kg. 1 brl.

Paraffin Scale—
New York, 421 brls. Thompson & Bedford

Paraffin Wax—
Philadelphia, 100 brls.

Pitch—
Amsterdam, 1 ck.

Potash—
Rotterdam, 156 cks.

Salt—
Hamburg, 10 bgs.

Saltpetre—
Calcutta, 272 bgs.
Hamburg, 25 cks.

Soap—
New York, 254 cs. 409 bxs. 1 bdl.
" 4 Colgate & Co.
Boston, 20 bxs. J. W. Thompson
Baltimore, 331 brls.
Hamburg, 10 cs.
Trieste, 12

Soapstone—
Bordeaux, 550 bgs. Geo. G. Blackwell, Sons & Co.
Genoa, 160

Sodium Acetate—
Rouen, 11 cks. R. J. Francis & Co.

Starch—
Hamburg, 168 cs.
New York, 300 sks. T. M. Duche & Sons
Baltimore, 100 bgs.
Antwerp, 100 cs. J. T. Fletcher & Co.
" 40
Rotterdam, 110 Browne, Geveke & Co.

Stearine—
Antwerp, 77 bgs.

Sulphur—
Catania, 150 t. 50 bgs. 67 brls.

Tallow—
B. Ayres, 150 pps. H. Brown
" 55 hf.-pps. 143 cks.
New York, 120 trcs. 1 pk.
Philadelphia, 100
Boston, 150
Baltimore, 52
Portland, 100 brls.

Tartar—
Naples, 2 cks.

Tartaric Acid—
Rotterdam, 16 cks.

Treacle—
Philadelphia, 100 brls.
New York, 400
Amsterdam, 25 cks.

Ultramarine—
Hamburg, 10 cs.
Rotterdam, 20 cks.

Varnish—
New York, 2 brls.

Waste Salt—
Hamburg, 303 bgs.

White Lead—
Rotterdam, 12 cks.

Wood Pulp—
Portland, M., 1,169 bls. E. F. Callister & Co.
Boston, 2,560 rolls Thin & Sinclair

Zinc Ashes—
Genoa 164 bgs. Hughes, Chemery & Co.
" 89

Zinc Oxide—
New York, 250 brls.
Antwerp, 35

Zinc White—
Rotterdam, 110 cks.

MANCHESTER.

Week ending February 19th.

Acetic Acid—
Gothenburg, 8 blns.

Alizarine—
Rotterdam, 23 cks. Wilson,
65 brls. Sons, & Co., Ld.

Ammonium Acetate—
Rotterdam, 4 brls. Wilson, Sons, & Co., Ld.

Aniline Colours—
Hamburg, 52 cks.
Rouen, 1

Aniline Oil—
Rotterdam, 1 ck. Wilson, Sons, & Co., Ld.

Beta-Naphthol—
Rotterdam, 2 brls. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Hamburg, 4 cks.
Rouen, 30

Colours—
Rotterdam, 129 cks. Wilson,
53 pks. Sons, & Co., Ld.
Hamburg, 5 cks. 5 cs.
Rouen, 1

Dimethylamine—
Rotterdam, 2 cks Wilson, Sons, & Co., Ld.

Farina—
Rotterdam, 1,360 bgs. Wilson, Sons, & Co., Ld.
Hamburg, 240

Glue—
Hamburg, 10 bskts.
Antwerp, 20 bls.

Indigo—
Rotterdam, 23 chts. Wilson,
2 brls. Sons, & Co., Ld.

Lead Acetate—
Hamburg, 23 cks.

Limestone—
Antwerp, 2 cs. J. T. Fletcher & Co.
" 4

Litharge—
Rotterdam, 5 cks. Wilson, Sons, & Co., Ld.

Manganese—
Rotterdam, 3 cks. Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 24 cks.

Phosphate—
Ghent, 1,040 bgs.

Pitch—
Antwerp, 60 dms.

Po assium Chlorate—
Gothenburg, 20 kgs.

Pyrites—
Huelva, 1,419 t.

Soap—
Rotterdam, 3 cs. Wilson, Sons, & Co., Ld.
Tunis, 1

Sodium Beta-Naphthol—
Rotterdam, 2 cks. Wilson, Sons, & Co., Ld.

Sodium Nitrite—
Rotterdam, 8 cs. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 273 cs.
Hamburg, 109
Rotterdam, 70 Wilson, Sons, & Co., Ld.

Sulphuric Acid—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.

Tar Waste—
Rotterdam, 8 cks. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 12 cks. Wilson,
20 kgs. Sons, & Co., Ld.

Tin Oxalate—
Rotterdam, 12 cks. Wilson, Sons, & Co., Ld.

Ultramarine—
Hamburg, 9 cks.

White Lead—
Rotterdam, 24 cks. Wilson, Sons, & Co., Ld.

Wood Pulp—
Gothenburg, 4 404 bls. 8,975 pks.
Rotterdam, 50 Wilson, Sons, & Co., Ld.

Zinc Oxide—
Antwerp, 110 brls.
Rotterdam, 40 cks. Wilson, Sons, & Co., Ld.

Zinc White—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.

HULL.

Week ending February 19th.

Acids—
Bari, 4 cks. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 200 bgs. Bailey & Leetham, Ld.
" 76 cks. H. F. Pudsey
Bremen, 912 pks.
Rotterdam, 205 cks. Hutchinson & Son
" 50 bgs. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undescribed)*
Stettin, 1 ck. Wilson, Sons, & Co., Ld.
Bremen, 5 pks. Veltmann
2 kgs. & Co.
Dunkirk, 34 cks. Wilson, Sons, & Co., Ld.
" 12

Cinnabar—
Bremen, 1 cs. Veltmann & Co.

Cod Oil—
Christiania, 10 brls. Wilson, Sons, & Co., Ld.

Colours—
New York, 60 brls.
Christiania, 8 cks. Wilson, Sons, & Co., Ld.
Stettin, 17 pks.
Rotterdam, 2 cks. Hutchinson
5 brls. & Son
26 W. & C. L.
" 4 pks. Ringrose
" 2 cks. Wilson, Sons, & Co., Ld.

Citric Acid—
Para, 4 c. 2 q. £12

Coal Products—
Aniline
Smyrna, 12 brls.
Aniline Colours
Boston, 5 kgs.
Aniline Dyes
Barcelona, 3 cs.
Aniline Salts
Boston, 45 cs.
Genoa, 10 brls.
Magog, 8
Creosote
Bordeaux, 251 cks. 250 brls.
Creosote Oil
Bordeaux, 150 brls.
Creosote Salts
Philadelphia, 280 bgs.
Pitch
Alexandria, 23 brls.
Galatz, 50
Hamburg, 55 cks.
Ibrail, 30
Rotterdam, 57
Rouen, 2
Tar
Galatz, 80 brls.
Sierra Leone, 20 kgs.
Villa Constitucion, 61 cs.

Copper Sulphate—

Bordeaux,	73 t.	2 c.		£1,161
Genoa,	171	12		2,741
Oporto,	43	2		698
Lisbon,	31	6		474
Naples,	89	12		1,411
Galatz,	5	18		95
Piræus,	8	10		129
Trieste,	170	17		2,754
Leghorn,	57	16		919
Cette,	102	19		1,750
Rouen,	40			632
Vigo,	21	7		337
Pernambuco,		4		4
Libau,	1	9		23
Mersyne,	1	4		19
Fiume,	5	2		78
Batavia,	8	15		140
Messina,	5			81
Venice,	299			4,841
Hamburg,	4	18		82
Antwerp,	5			81
Constantinople,	1	18		31
Alexandria,	1	7		22
Marseilles,	11	3		187
Catania,	5	2		78
Palermo,	7			116
Rotterdam,	6	1		97

Copperas—

B. Ayres,	1 t.			£2
Bourgas,	4	7 c.	3 q.	8
Callao,	3	10		6
Karachi,	14	15		45
St. John's, N.B.,	1	9	2	3

Disinfectants—

Bombay,	2 t.			£74
B. Ayres,		4 c.		8

Magnesia—

Havana,		4 c.		£5
Bilbao,	2 t.	14		43
Paris,	1	16		31

Magnesium Carbonate—
Tampico, 10 cs.

Magnesium Chloride—

Rouen,	5 t.	2 c.	1 q.	£12
Nantes,	10	7	1	33

Magnesium Sulphate—
Seville, 15 pks.

Manure—

Bordeaux,	25 t.	1 c.		£102
Rochefort,	10	1		40
Genoa,	48	1	1 q.	162
St. Vaast,	11	16	2	49

Muriatic Acid—

B. Ayres,		6 c.		£4
Pernambuco,	1 t.	1		12

Naphthylamine—
Barcelona, 7 cks.

Oxalic Acid—

Boston,	24 t.	16 c.		£726

Paint—

Alexandria,	65 pks.	10 dms.	
Antwerp,	5		
Aux Cayes,			6 cks.
Axim,	39		
Barbadoes,	13		
Bathurst,	4		
Bolama,	4		
Bombay,	8		
Bonny,	19		
Cabenda,			50 kgs.
Cadiz,		40	
Calcutta,	401	100	20
Callao,			3
Cape Town,	37	45	
Cartagena, Sp.,		20	
Colombo,			16
Demerara,	34		
Ghent,	14		
Gibraltar,	3		
Havana,		30	11 cks.
Kenilworth,	35		
Loanda,		3 cs.	
Loango,	7 brls.		
Manaos,	30	141	
Manila,	46 pks.		16
Mollendo,	42		
M. Video,		20 crts.	
Novo Redondo,			2 / 75 kgs.
Payta,			3 cks.
Pisco,			56 kgs.
Rangoon,		20 dms.	
Rosario,		8 brls.	
Shanghai,			180
St. Thome,			3 cks.
Ukaha,			1
Valencia,			4
Valparaiso,	5	3 cs.	
Yloilo,			26

Painters' Colours—

Bahia,	30 pks.		
Boston,	172		
Braila,	140		
Bremen,	206		
New York,		172 brls.	50 bgs.
Para,	104		
Porto Alegre,		14	
Progresso,			25 kgs.
Rosario,			20
Rotterdam,	26		8 cs.
St. Louis,		100	
Sierra Leone,	131		

Paraffin Wax—

Genoa,	350 bgs.		
Gijon,	10		
Leghorn,	250		
Lisbon,	20	10 cs.	
Patras,		7	
Piræus,		10	
Rio de Janeiro,		6	
Rouen,		10	

Phosphorus—

Hong Kong,	1 t.	1 c.	£212
Hiogo,	4	8	1,015
Hamburg,		3	30
Trinidad,		3	30

Picric Acid—

New York,	2 t.		£170

Potashes—

La Plata,		6 c.	£6

Potassium Bichromate—

Vera Cruz,		8 c.	£15
Mexico City,	2 t.		70

Potassium Carbonate—

Hamburg,		3 c.	£4

Potassium Chlorate—

Libau,	18 t.		£564
San Juan,	2		61
Hiogo,	20		586
Goteburg,	5		140
Hong Kong,	8	10 c.	247
Tampico,	1		32
Santander,	1	10	49
Kingston,	1		32
Sao Paulo,	3		98
Konigsberg,	3	10	106
Gothenburg,	2	10	86
Naples,	3	10	108
Savanilla,		6	14
Reval,	10	10	376
New York,	22	7	669
Rio de Janeiro,	1		29
Philadelphia,	9	5	274
Rotterdam,	2		65
Hamburg,	2	5	76

Potassium Cyanide—

Madras,	3 t.		£336

Salt—

Antwerp,	200 t.		
Appam,	6	8 c.	
Baltimore,	214	18	
Boston,	100		
Brunswick,	1 450		
Cabenda,	9	17	
Calcutta,	8,845		
Cameroons,	183	7	
Cape Town,	1	16	
Chicago,	30		
Christiania,	100		
Demerara,	430	17	
E. London,	56	17	
Egwanga,	160	16	
Iquitos,	15		
Lagos,	200		
Malta,	4	17	
N. Orleans,	380		
Newcastle,	50		
Old Calabar,	209	10	
Opobo,	110		
Para,	334	7	
Rangoon,	25		
Reykjavik,	113		
Rio de Janeiro,	9	1	
Rotterdam,	300		
Sydney,	170		
Wellington,	10		

Salt Cake—

Baltimore,	96 t.	2 c.	£147

Saltpetre—

San Francisco,	4 t.	1 c.	£33
Cartagena,	15	4	243

Soap—

Accra,	425 bxs.		
Alexandria,	70		
Bahia,	10		
Baltimore,			3 pks.
Bangkok,	100		
Banokta,	20		
Bluefields,	300		
Boma,	216		
Bombay,	560		8
Boston,			6 cks.
Brussels,	1,960		
Cameroons,	250		
C. C. Castle,	170		
Cape Town,	3,920		
Colman,		220 cs.	
Constantinople,		1	
Delagoa Bay,	720		10 pks.
Demerara,	1,712		
E. London,	3,046		14 bdls.
Ferrol,	19 kgs.		
Gibraltar,	50 bxs.		
Halifax,		200	
Hong Kong,	500		
Iquitos,	150		
Johannesburg,	220		
Karachi,	400		
Lagos,	448		
Las Palmas,	528		
Loango,	100		
Madras,		15	
Malta,	20		
Manaos,	100		
Mannheim,		280	
Matadi,	203		
Mauritius,	751		
Melilla,	70		
Montreal,		300	
Mossel Bay,	500		
New York,		80	
Opobo,	50		
Philadelphia,	25		
Pt. Natal,	150		
Rawal Pindi,		12	
Rotterdam,		150	
Rouen,		25	
St. John's, N.B.,		100	
Salonica,		52	
Savanilla,		6	
Shanghai,	2,821		
Sierra Leone,		8	
Singapore,	288		
Teneriffe,	100		
Trinidad,	1,200		
Vancouver,	125		
Victoria,		280	
Villa Constitucion,		1	
Volo,		5	
Yloilo,		2	
Zanzibar,	125 bxs.		

Soda Alkali—

Galatz,	150 bgs.		

Soda Ash—

Aalborg,	50 bgs.		
Antwerp,	1,000		16 cks.
Asuncion,			50
Baltimore,	806		34
Barcelona,			20
Bombay,		4 brls.	8
Boston,			34
Brisbane,			220
B. Ayres,		150	50
Calcutta,	430 kgs.		
Delftshaven,	1,334 bgs.		
Drammen,			12
Galatz,		40	
Gothenburg,	750		
Hamburg,			79
Havana,			4
Hiogo,		245	600
Johannesburg,	90 kgs.		
Mitylene,	200 bgs.		
M. Video,		50	
Naples,	150		
N. Orleans,	360		
Newport News,			34
New York,	800	32 tcs.	17
Panama,		40 brls.	
Philadelphia,	4,789	321 tcs.	53 bxs.
Rio de Janeiro,		20 brls.	
Samarang,			23 cks.
Sourabaya,			88
Stettin,	1,200		
Syra,		10	
Toronto,	300		
Venice,	100		
Yokohama,			100

Soda Crystals—

Bourgas,		20 brls.	
Calcutta,		25	
Rangoon,			1 ck.
St. John's, N.B.,	5 kgs.		

Sodium Arseniate—

Boston,			21 cks.

Sodium Bicarbonate—

Alexandria,		45 brls.	
Amsterdam,	20 kgs.		
Algoa Bay,	20 bgs.		
Antwerp,	15 kgs.		
Barcelona,	95		2 cks.
Beira,	40		
Bombay,	40		
Bordeaux,	10		
Bourgas,	40		
Brest,	50		
Brisbane,	310		
Catania,	10 bgs.		
Cartagena, Sp.,	60 kgs.		
E. London,	20 bgs.		
Genoa,	100 kgs.		45
Galatz,	100		
Halifax,	100		
Hiogo,	800		
Hong Kong,	24		
Johannesburg,	150		
Madras,	50		
New York,		112 brls.	
Osaka,	200		
Palermo,			3
Paris,	197		
Philadelphia,	80		
Pt. Elizabeth,	20 bgs.		
Pt. Natal,	40 kgs.		
Rangoon,		5	
Rouen,	16		
St. John's, N.B.,	150		
Salonica,	35	20	
Samsoun,	20		
Seville,	135	5	2
Smyrna,			33 pks.
Sydney,	400		18 cks.
Tampico,	20		
Truro,	50 bgs.		
Valencia,	76 kgs.		5
Venice,	40		
Victoria,			4
Wellington,	8		

Sodium Carbonate—

Boston,		106 brls.	

Sodium Chlorate—

Libau,	100 kgs.		
Philadelphia,	250		

Sodium Sulphide—

Hamburg,			17 cks.

Sodium Sulphite—

Genoa,		82 brls.	

Starch—

Copenhagen,			5 cks.
Las Palmas,		50 cs.	

Sulphur—

St. John's,	2 t.	10 c.	
Savanilla,		3	
Trinidad,	4	19	
Boston,	200	8	

Sulphuric Acid—

Antwerp,	2 t.	5 c.	
Colombo,	2	5	
Pernambuco,		5	

Superphosphates—

Antwerp,	9 t.	17 c.		
Genoa,	88	13	2 q.	
Rochefort,	269	19		
St. Vaast,	118	4	2	
Havre,	270	3		
Cherbourg,	550	18	3	
Bordeaux,	255	9		
Nantes,	444	12		
Valencia,	235	13	2	
Alicante,	5			

Varnish—

Baltimore,	12 bdls.		
Corfu,		2 cs	
Truxillo,		1	

White Lead—

Bluefields,	30 kgs.		
Pt. Natal,	20		
Santander,			8 cks.

Zinc Chloride—

Piræus,	4 t.	4 c.	

Zinc Sulphate—

Calcutta,		9 c.	

Carbolic Acid—
Antwerp, 48 cks. £203
Hong Kong, 20 dms. 8

Caustic Potash—
Havre, 4 cs. £6

Caustic Soda—
Antwerp, 10 c. £20
Townsville, 1 t. 9
Havre, 5 5
E. London, 1 18 39
Alexandretta, 10 11 105
Durban, 2 10 19

Chemicals *(otherwise undescribed)*
Calcutta, 4 kgs. £14
Pt. Elizabeth, 9 cs. 11
Dunkirk, 22 dms. 75
Bombay, 6 77
Boulogne 3 12
Alexandretta, 4 pks. 12
Brussels, 2 15
Rotterdam, 6 cks. 128
Adelaide, 76 29
Melbourne, 40 38
Brisbane, 29 42
Perth, 157 82
Wellington, 13 12
Baltimore 25 kgs. 19
Demerara, 125 33
E. London, 20 15
Singapore, 30 336
Shanghai, 15 23
Sydney, 20 175
Bordeaux, 2 24
Lyttelton, 8 17

Citric Acid—
Hiogo, 1 c. £6
Durban, 2 11
Auckland, 3 21
Rangoon, 1 6
Bombay, 5 cs. 26
Reval, 10 kgs. 57

Coal Products—
Aniline
Antwerp, 4 cks. £63
Adelaide, 3 cs. 16
Genoa, 2 47
Boulogne, 1 23
Aniline Oil
New York, 23 dms. £720
Anthracene
Rotterdam, 929 cks. £2,897
Benzine
Cape Town, 60 dms. £36
Benzol
Rotterdam, 75 cks. £310
Boulogne, 48 140
Treport, 79 212
Creosote Salts
Philadelphia, 588 bgs. £71
Naphthaline
Antwerp, 1 ck. £9
Hamburg, 6 52
Pt. Chalmers, 10 14
Montreal, 72 75
Toronto, 19 20
Pitch
Boston, 21 cks. £60
Galatz, 25 brls. 7
Braila, 25 7
Dunkirk, 1,575 t. 1,960
Alexandria, 46 700 229
New York, 300 16 154
Chantenay, 851 1,170
Philadelphia, 450 180
Prussian Blue
Genoa, 2 cks. £17
Pyridine
Rotterdam, 11 cks. £130
Pyridine Bases
Hamburg, 5 dms. £168
Tar
Galatz, 70 brls. £45
Braila, 50 25
Stettin, 199 100
Durban, 16½ dms. 6
Cape Town, 25 cks. 39
Beira, 30 7
Tar Salts
New York, 33 cks. £380
Toluol
Rotterdam, 9 cks. £147
Hamburg, 72 550

Coal Products *(otherwise undes.)—*
Antwerp, 10 kgs. £59
Brussels, 25 118
Boston, 2 cks. 8
Amsterdam, 1 30
Hamburg, { 4 39 1 cs. 2 brls. 371

Copper Sulphate—
Brisbane, 56 t. 14 c. £876
Pt. Elizabeth, 8 8
Antwerp, 20 315
Fremantle, 3 50
Bordeaux, 70 1,089
Danzig, 15 251
Batoum, 35 4 604
Messina, 10 170
Odessa, 25 417
Palermo, 5 5

Corrosive Sublimate—
Madras, 6 c. £53
Bombay, 6 cs. 60

Cream of Tartar—
Wellington, 4 c. £18
Melbourne, 1 t. 78
Dunedin, 10 10 kgs. 80
Fremantle, 14 58

Disinfectants—
Calcutta, 465 dms. £31
Berbice, 2 cks. 13
Pt. Elizabeth, 84 cs. 10 pks. 194
Wellington, 3 10
Tientsin, 6 10
Hamburg, 50 250
Antwerp, 750 dms. 145
Alexandria, 23 151
Bombay, 500 300
Durban, 11 cs. 40

Guano—
Dunkirk, 99 t. 10 c. £470

Magnesium Sulphate—
Brisbane, 400 kgs. £56

Manure—
Bordeaux, 20 t. £50
New Plymouth, 25 10 c. 100
Wellington, 153 600
Blenheim, 25 10 100
Martinique, 128 17 790
Berbice, 60 505
Jersey, 30 240
Cherbourg, 225 600

Nitric Acid—
Channel Is., 16 carboys £32

Oxalic Acid—
Melbourne, 1 t. £33
Otago, 6 c. 10

Oxygen—
Amsterdam, 1 cs. £40

Phosphate—
Grenada, 11 t. £25

Potash—
Otago, 5 c. £9
B Ayres, 10 12
E. London, 5 7
Montreal, 5 32

Potash Salts—
Auckland, 10 t. 17 c. £978

Potassium Chlorate—
E. London, 1 t. £34
Wellington, 10 c. 15
Tientsin, 9 17

Potassium Cyanide—
Durban, 2 t. £215
Fremantle, 10 c. 47
Delagoa Bay, 10 cs. 112
Melbourne, 1 10 168
Townsville, 1 4 112
Bundaberg, 1 4 121
Pt. Elizabeth, 7 10 683
Madras, 2 10
Adelaide, 2 3 240
Pt. Darwin, 2 19 300
Auckland, 3 315

Potassium Permanganate—
E. London, 5 t. £305

Saltpetre—
Bahia, 2 t. 15 c. £56
Lisbon, 5 10 102
Wellington, 10 10
Rio de Janeiro, 6 3 126
Santos, 11 18 249

Sheep Dip—
Dunedin, 100 cs. £150
Durban, 3 5 c. 250 dms 64
B. Ayres, 9 t. 17 244
Fremantle, 5 cs. 20
Wellington, 100 150

Slag—
Cape Town, 267 t. 17 c. £482

Soda—
Barranquilla, 3 c. £14
Singapore, 1 t. 7

Soda Ash—
Lyttelton, 10 t. 17 c. £45

Soda Crystals—
Durban, 2 t. £5

Sodium Bicarbonate—
Aden, 1 c. £8
Pt. Elizabeth, 3 5
Paris, 5 t. 16 97
Fremantle, 5 2 33

Sodium Carbonate—
E. London, 1 t. 4 c. £35

Sodium Hyposulphite—
Otago, 1 t. £6

Sodium Prussiate—
Antwerp, 2 t. £75

Sulphur—
E. London, 18 c. 25 cks. 35 kgs. £43
Fremantle, 20 cs. 22

Sulphuric Acid—
Cape Town, 2 t. 5 c. £20

Tartaric Acid—
Cape Town, 12 c. £67
Brisbane, 2 12
Hiogo, 5 29
Rio de Janeiro, 1 t. 130
Valencia, 5 30
Wellington, 2 11
Fremantle, 8 46
Auckland, 3 18

LIVERPOOL.

Week ending February 23rd.

Acetic Acid—
Frontera, 1 cs. £2
Odense, 1 t. 20
Copenhagen, 2 40
Lisbon, 5 brls. 7

Alkali—
Santander, 10 t. 15 c. £48

Alum—
Constantinople, 2 t. 17 c. £13
Piræus, 4 7 1 q. 20

Ammonium Carbonate—
Bordeaux, 6 c. 1 q. £9
Danzig, 1 t. 2 29
Copenhagen, 1 2 31
Venice, 25 kgs. 32
Marseilles, 16 24
Montreal, 5 7
New York, 1 t. 10 42
Rouen, 1 25
Pernambuco, 4 1 7
Para, 10 1 15

Ammonium Chloride—
Rotterdam, 5 t. 1 c. 1 q. £78
Philadelphia, 18 3 3 318
Genoa, 4 cks. 35
Volo, 1 brl. 15
Ghent, 6 10
Galatz, 1 3 40
Ibrail, 12 15
Piræus, 19 19

Ammonium Sulphate—
Marseilles, 30 t. 6 c. £303
Nantes, 20 205
Cullera, 20 13 3 q. 207
Genoa, 30 9 1 305
Las Palmas, 30 308
Malaga, 51 10 525
Baltimore, 100 10 1,001
Gd. Canary, 14 14 145
Leghorn, 20 5 204
Valencia, 225 10 2 2,204
Demerara, 336 15 3,716

Anhydrous Ammonia—
Las Palmas, R. Plate, 9 c £107

Bleaching Powder—
Bilbao, 30 cks.
Bombay, 45 cs. 81 bxs.
Boston, 610
B. Ayres, 10
Dunkirk, 18
E. London, 30 dms.
East St. Louis, 42
Everett, 83
Halifax, 18
Lisbon, 49
Nantes, 15
N'port News, 296
New York, 63 25
Paris, 37
Philadelphia, 368
St. Jerome, 23
Windsor Mills, 64

Boracic Acid—
Merida, 5 c. 1 q. £7
Mayence, 15 20
Havana, 1 3 26
Melbourne, 3 12 88

Borax—
Stettin, 1 t. £14
Mexico, 2 29
Antwerp, 4 5 c. 1 q 62
New York, 16 3 12
Hamburg, 1 1 3 16
Montreal, 4 1 2 61
Yokohama, 2 19 40
Ghent 15 15
Frontera, 9 9
Ibrail, 4 10
Rotterdam, 12 14 3 212

Calcium Chloride—
Rouen, 10 t. £22
Leghorn, 3 7
Genoa, 4 19 c. 12
Gothenburg, 3 1 7
Colombo, 1 15 4

Carbolic Acid—
Barcelona, 1 t. 14 c. £130
Hamburg, 6 15 314
Calcutta, 2 cs. 38
Valparaiso, 4 18
Copenhagen, 19 3 q. 67
Rotterdam, 5 15 337
Lagos, 10 dms. 7
Bombay, 16 5 144
Vera Cruz, 6 9
Baltimore, 13 18 819
Rouen, 5 245
Rio de Janeiro, 3 17 98

Carbonic Acid—
Punta Arenas, 2 c. £32

Caustic Soda—
Alexandria, 30 dms.
Alicante, 10
Amsterdam, 245
Antwerp, 120
Asuncion, 25
Babia, 10
Barcelona, 195 187 cks.
Bari, 10
Bilbao, 50
Bombay, 47
Boston, 50 100 brls.
Brisbane, 16
Brussels, 16
B. Ayres, 50
Callao, 90
Cartagena, 20
Catania, 10
Copenhagen, 20
Dunedin, 30
Fiume, 160
Galatz, 200
Genoa, 68
Hamburg, 55
Hiogo, 304
Hong Kong, 120
Jamaica, 27
Leghorn, 65
Lisbon, 50
Malaga, 68
Manila 50
M. Video, 25
Nantes, 95
Newcastle, 20
New York, 25 99 pks.
Oporto, 180
Philadelphia, 24 crts.
Pt. Natal, 6
Rangoon, 20
Rosario, 22
Rotterdam, 59
Rouen, 11
Samarang, 20
San Sebastian, 75
Santander, 70 30 cks.
Santos, 70
Seville, 176
Singapore, 10
Sourabaya, 245
Talcahuano, 50
Tarragona, 30
Tampico, 300
Trieste, 60
Valencia, 130
Valparaiso, 50 kgs.
Wellington, 20
Yokohama, 100

Chemicals *(otherwise undescribed)*
Boston, 2 t. 13 c. 2 q. £75
Hamburg, 1 6 37
Vladivastock, 4 6
Bordeaux, 3 cks. 13
Genoa, 1 5 39
Antwerp, 7 10
Calcutta, 11 2 36
Havana, 18 18 65
Smyrna, 1 30
Alexandria, 1 1 47
Mauritius, 3 2 11
Philadelphia, 15 9 458
Catania, 5 1 q. 4
Rotterdam, 17 7 247
Leghorn, 1 14
Rosario, 4 8 70
Barcelona, 6 3 99
M. Video, 2 brls. 5
Cadiz, 2 28
Dunedin, 10 8
Delagoa Bay, 1 114
Syra, 40 65

China Clay—
Barcelona, 10 t
Bombay, 42 10 c.
Newport News, 230 cks.
Philadelphia, 390
Yarmouth, 140

Chromium Trioxide—
Hamburg, 10 c. £29

Citric Acid—
Para, 4 c. 2 q. £12

Coal Products—
Aniline
Smyrna, 12 brls.
Aniline Colours
Boston, 5 kgs.
Aniline Dyes
Barcelona, 3 cs.
Aniline Salts
Boston, 45 cs.
Genoa, 10 brls.
Magog, 8
Creosote
Bordeaux, 251 cks. 250 brls.
Creosote Oil
Bordeaux, 150 brls.
Creosote Salts
Philadelphia, 280 bgs.
Pitch
Alexandria, 23 brls.
Galatz, 50
Hamburg, 55 cks.
Ibrail, 30
Rotterdam, 57
Rouen, 2
Tar
Galatz, 80 brls.
Sierra Leone, 20 kgs.
Villa Constitucion, 61 cs.

Copper Sulphate—

Bordeaux,	73 t.	2 c.		£1,161
Genoa,	171	12		2,741
Oporto,	43	2		698
Lisbon,	31	6		474
Naples,	89	12		1,411
Galatz,	5	18		95
Piræus,	8	10		129
Trieste,	170	17		2,754
Leghorn,	57	16		919
Cette,	102	19		1,750
Rouen,	40			632
Vigo,	21	7		337
Pernambuco,		4		4
Libau,	1	9		23
Mersyne,	1	4		19
Fiume,	5	2		78
Batavia,	8	15		140
Messina,	5			81
Venice,	299			4,841
Hamburg,	4	18		82
Antwerp,	5			81
Constantinople,	1	18		31
Alexandria,	1	7		22
Marseilles,	11	3		187
Catania,	5	2		78
Palermo,	7			116
Rotterdam,	6	1		97

Copperas —

B. Ayres,	1 t.			£2
Bourgas,	4	7 c.	3 q.	8
Callao,	3	10		6
Karachi,	14	15		45
St. John's, N.B.,	1	9	2	3

Disinfectants—

Bombay,	2 t.			£74
B. Ayres,		4 c.		8

Magnesia —

Havana,		4 c.		£5
Bilbao,	2 t.	14		43
Paris,	1	16		31

Magnesium Carbonate—
Tampico, 10 cs.

Magnesium Chloride—

Rouen,	5 t.	2 c.	1 q.	£12
Nantes,	10	7	1	33

Magnesium Sulphate—
Seville, 15 pks.

Manure—

Bordeaux,	25 t.	1 c.		£102
Rochefort,	10	1		40
Genoa,	48	1	1 q.	162
St. Vaast,	11	16	2	49

Muriatic Acid—

B. Ayres,		6 c.		£4
Pernambuco,	1 t.	1		12

Naphthylamine—
Barcelona, 7 cks.

Oxalic Acid—
Boston, 24 t. 16 c. £726

Paint—
Alexandria, 65 pks. 10 dms.
Antwerp, 5
Aux Cayes, 6 cks.
Axim, 39
Barbadoes, 13
Bathurst, 4
Bolama, 4
Bombay, 8
Bonny, 19
Cabenda, 50 kgs.
Cadiz, 60
Calcutta, 401 100 20
Callao, 3
Cape Town, 37 45
Cartagena, Sp., 20
Colombo, 16
Demerara, 34
Ghent, 14
Gibraltar, 3
Havana, 30 11 cks.
Kenilworth, 35
Loanda, 3 cs.
Loango, 7 brls.
Manaos, 30 141
Manila, 46 pks. 16
Mollendo, 42
M. Video, 20 crts.
Novo Redondo, { 2 / 75 kgs.
Payta, 3 cks.
Pisco, 56 kgs.
Rangoon, 20 dms.
Rosario, 8 brls.
Shanghai, 180
St. Thome, 3 cks.
Ukaha, 1
Valencia, 4
Valparaiso, 5 3 cs.
Yloilo, 26

Painters' Colours—
Bahia, 30 pks.
Boston, 172
Braila, 140
Bremen, 206
New York, 172 brls. 50 bgs.
Para, 104
Porto Alegre, 14
Progresso, 25 kgs.
Rosario, 20
Rotterdam, 26 8 cs.
St. Louis, 100
Sierra Leone, 131

Paraffin Wax—
Genoa, 350 bgs.
Gijon, 10
Leghorn, 250
Lisbon, 20 10 cs.
Patras, 7
Piræus, 10
Rio de Janeiro, 6
Rouen, 10

Phosphorus—

Hong Kong,	1 t.	1 c.	£212
Hiogo,	4	8	1,015
Hamburg,		3	30
Trinidad,		3	30

Picric Acid—
New York, 2 t. £170

Potashes—
La Plata, 6 c. £6

Potassium Bichromate—
Vera Cruz, 8 c. £15
Mexico City, 2 t. 70

Potassium Carbonate—
Hamburg, 3 c. £4

Potassium Chlorate—

Libau,	18 t.		£564
San Juan,	2		61
Hiogo,	20		586
Goteburg,	5		140
Hong Kong,	8	10 c.	247
Tampico,	1		32
Santander,	1	10	49
Kingston,	1		32
Sao Paulo,	3		98
Konigsberg,	3	10	106
Gothenburg,	2	10	86
Naples,	3	10	108
Savanilla,		6	14
Reval,	10	10	376
New York,	22	7	669
Rio de Janeiro,	1		29
Philadelphia,	9	5	274
Rotterdam,	2		65
Hamburg,	2	5	76

Potassium Cyanide—
Madras, 3 t. £336

Salt—

Antwerp,	200 t.		
Appam,	6	5 c.	
Baltimore,	214	18	
Boston,	100		
Brunswick,	1,450		
Cabenda,	9	17	
Calcutta,	8,845		
Cameroons,	183	7	
Cape Town,	1	16	
Chicago,	30		
Christiania,	100		
Demerara,	430	17	
E. London,	56	17	
Egwanga,	160	16	
Iquitos,	15		
Lagos,	200		
Malta,	4	17	
N. Orleans,	380		
Newcastle,	50		
Old Calabar,	209	10	
Opobo,	110		
Para,	334	7	
Rangoon,	25		
Reykjavik,	113		
Rio de Janeiro,	9	1	
Rotterdam,	300		
Sydney,	170		
Wellington,	10		

Salt Cake—
Baltimore, 96 t. 2 c. £147

Saltpetre—
San Francisco, 4 t. 1 c. £83
Cartagena, 15 4 243

Soap—
Accra, 425 bxs.
Alexandria, 70
Bahia, 10
Baltimore, 3 pks.
Bangkok, 100
Banokta, 20
Bluefields, 300
Boma, 216
Bombay, 560 8
Boston, 6 cks.
Brussels, 1,960
Cameroons, 250
C. C. Castle, 170
Cape Town, 3,920
Colmar, 220 cs.
Constantinople, 1
Delagoa Bay. 720 10 pks.
Demerara, 1,712
E. London, 3,046 14 bdls.
Ferrol, 19 kgs.
Gibraltar, 50 bxs.
Halifax, 200
Hong Kong, 500
Iquitos, 150
Johannesburg, 220
Karachi, 400
Lagos, 448
Las Palmas, 528
Loango, 100
Madras, 15
Malta, 20
Manaos, 100
Mannheim, 280
Matadi, 203
Mauritius, 751
Melilla, 70
Montreal, 300
Mossel Bay, 500
New York, 80
Opobo, 50
Philadelphia, 25
Pt. Natal, 150
Rawal Pindi, 12
Rotterdam, 150
Rouen, 25
St. John's, N.B., 100
Salonica, 52
Savanilla, 6
Shanghai, 2,821
Sierra Leone, 8
Singapore, 288
Teneriffe, 100
Trinidad, 1,200
Vancouver, 125
Victoria, 280
Villa Constitucion, 1
Volo, 5
Yloilo, 2
Zanzibar, 125 bxs.

Soda Alkali —
Galatz, 150 bgs.

Soda Ash—
Aalborg, 50 bgs.
Antwerp, 1,000 16 cks.
Asuncion, 50
Baltimore, 806 34
Barcelona, 20
Bombay, 4 brls. 8
Boston, 34
Brisbane, 220
B. Ayres, 150 50
Calcutta, 430 kgs.
Delftshaven, 1,334 bgs.
Drammen, 12
Galatz, 40
Gothenburg, 750
Hamburg, 79
Havana, 4
Hiogo, 245 600
Johannesburg, 90 kgs.
Mitylene, 200 bgs.
M. Video, 50
Naples, 150
N. Orleans, 360
Newport News, 34
New York, 800 32 tcs. 17
Panama, 40 brls.
Philadelphia, 4,789 321 tcs. 53 bxs.
Rio de Janeiro, 20 brls.
Samarang, 23 cks.
Sourabaya, 28
Stettin, 1,200
Syra, 10
Toronto, 300
Venice, 100
Yokohama, 100

Soda Crystals—
Bourgas, 20 brls.
Calcutta, 25
Rangoon, 1 ck.
St. John's, N.B., 5 kgs.

Sodium Arseniate—
Boston, 21 cks.

Sodium Bicarbonate—
Alexandria, 45 brls.
Amsterdam, 20 kgs.
Algoa Bay, 20 bgs.
Antwerp, 15 kgs.
Barcelona, 95 2 cks.
Beira, 40
Bombay, 40
Bordeaux, 10
Bourgas, 40
Brest, 50
Brisbane, 310
Catania, 10 bgs.
Cartagena, Sp., 60 kgs.
E. London, 20 bgs.
Genoa, 100 kgs. 45
Galatz, 100
Halifax, 100
Hiogo, 800
Hong Kong, 24
Johannesburg, 150
Madras, 50
New York, 112 brls.
Osaka, 200
Palermo, 3
Paris, 197
Philadelphia, 80
Pt. Elizabeth, 20 bgs.
Pt. Natal, 40 kgs.
Rangoon, 5
Rouen, 16
St. John's, N.B., 150
Salonica, 35 20
Samsoun, 20
Seville, 135 5 2
Smyrna, 33 pks.
Sydney, 400 18 cks.
Tampico, 20
Truro, 50 bgs.
Valencia, 76 kgs. 5
Venice, 40
Victoria, 4
Wellington, 8

Sodium Carbonate—
Boston, 106 brls.

Sodium Chlorate—
Libau, 100 kgs.
Philadelphia, 250

Sodium Sulphide—
Hamburg, 17 cks.

Sodium Sulphite —
Genoa, 82 brls.

Starch—
Copenhagen, 5 cks.
Las Palmas, 50 cs.

Sulphur—

St. John's,	2 t.	10 c.		£15
Savanilla,		3		2
Trinidad,	4	19		22
Boston,	200	8		861

Sulphuric Acid—

Antwerp,	2 t.	5 c.		£25
Colombo,	2	5		25
Pernambuco,		5		3

Superphosphates—

Antwerp,	9 t.	17 c.		£18
Genoa.	88	13	2 q.	166
Rochefort,	269	19		481
St. Vaast,	118	4	2	212
Havre,	270	3		492
Cherbourg,	550	18	3	995
Bordeaux,	255	9		453
Nantes,	444	12		823
Valencia,	235	13	2	401
Alicante,	5			8

Varnish—
Baltimore, 12 bdls.
Corfu, 2 cs
Truxillo, 1

White Lead—
Bluefields, 30 kgs.
Pt. Natal, 20
Santander, 8 cks.

Zinc Chloride—
Piræus, 4 t. 4 c. £50

Zinc Sulphate—
Calcutta, 9 c. £4

MANCHESTER.

Week ending February 23rd.

Alum—
Alexandretta, 20 brls.
Alexandria, 136
Barcelona, 6 cks.
Bushire, 30

Ammonium Carbonate—
Rotterdam, 15 kgs. 3 cks.

Ammonium Chloride—
Beyrout, 3 brls.
Bushire, 2

Ammonium Sulphate—
Valencia, 4,059 bgs.

Aniline Colours—
Barcelona, 7 kgs. 6 cks.
Belgium, 4
Germany, 3 1 cs. 2
Valencia, 3

Aniline Oil—
Barcelona, 20 cks.
Bombay, 2 dms.

Aniline Salts—
Barcelona, 20 cks.
Germany, 10 cs.

Borax—
Tunis, 2 brls.

Caustic Soda—
Germany, 100 dms.
Susa, 25
Tunis, 12

Chemicals (*otherwise unaescribed*)
Alexandria, 40 cks.
Bagdad, 8
Mersyne, 3

Copperas—
Alexandretta, 50 brls.
Alexandria, 165
Bussorah, 250

Disinfectants—
Bombay, } 7 brls. qty. 33 dms.

Glue—
Barcelona, 20 cks.
Spain, 30

Naphthylamine—
Switzerland, 14 cks

Nitrous Oxide Gas—
Copenhagen, 1 bx.

Oxalic Acid—
Bushire, 4 cs.

Painters' Colours—
Limassol, 2 cks.

Paraffin Wax—
Barcelona, 40 bls.
Beyrout, 8 cs.

Pitch—
Cette, 642 t.
Belgium, 3,213 c.
Treport, £25

Potassium Bichromate—
Barcelona, 18 cks.
Bushire, 8 cs.

Salt—
Gothenburg, 100 t.

Soap—
Bushire, 25 cs.
Copenhagen, 10 bxs
Malta, 3

Soda Alkali—
Tunis 15 cks.

Sodium Arseniate—
France, 1 kg.

Sulphuric Acid—
Bushire, 8 cs.

Tallow—
Holland, 3 cks.

Tar Oil—
Germany, 1 dm 6 cks.

Varnish—
Barcelona, 9 cks.

HULL.

Week ending February 19th.

Alkali—
Hango, 3 cks.

Ammonium Sulphate—
Rotterdam, 970 bgs.
Stettin, 474

Benzol—
Rotterdam, 48 cks.

Bleaching Powder—
Boston, 95 cks.
Bombay, 30 dms
Hango, 325

Chemicals (*otherwise undescribed*)
Amsterdam, 45 cks. 12 pks.
Antwerp, 3 5 cs. 15
Bombay, 675 30
Copenhagen, 6
Christiania, 1
Drontheim, 1 10
Gothenburg, 4 43 30
Hamburg, 9 220
Hango, 15
Kurrachee, 297
Rotterdam, 74 86 16
Stettin, 6

Cottonseed Oil—
Amsterdam, 1,458 c.
Antwerp, 1,636
Boston, 33
Bremen, 162
Copenhagen, 104
Drontheim, 18
Dunkirk, 347
Hamburg, 1,554
Harlingen, 200
Rotterdam, 1,127
Trieste, 504

Dyestuffs (*otherwise unaescribea*)
Amsterdam, 56 cks.
Boston, 6
Christiania, 10
Stettin, 60 bgs.

Linseed Oil—
Aalesund, 7 c.
Antwerp, 11
Bombay, 322
Bergen, 173
Copenhagen, 36
Christiania, 36
Kurrachee, 24
Rotterdam, 3
Stavanger, 7

Manure—
Dunkirk, 1,692 bgs.
Venice, 221 t.

Mineral White—
Antwerp, 100 bgs.

Painters' Colours—
Amsterdam, 10 cks. 1 cs.
Antwerp, 8 1 24 dms.
Boston, 2 123 pks.
Bremen, 6
Bombay, { 54 160 20 dms. 348 pks.
Bergen, 1
Copenhagen, 1 1 37
Christiania, 43 50
Drontheim, 1
Gothenburg, 5
Ghent, 25
Hamburg, 12 8
Hango, 8 2 50 dms.
Kurrachee, 16
Rotterdam, 21 3 10
Stavanger, 3 38 pks.

Pitch—
Antwerp, 194 t.

Soap—
Amsterdam, 25 cs
Antwerp, 26
Christiania, 1
Gothenburg, 1
Rotterdam, 20

Tallow—
Hamburg, 25 cks.

Tar—
Aalesund, 2 cks.
Amsterdam, 8
Rotterdam, 38

Varnish—
Amsterdam, 6 cs.
Antwerp, 6 cks. 1
Bombay, 75 dms.
Hango, 1
Rotterdam, 5

GLASGOW.

Week ending February 24th.

Acetate of Lime—
Rio de Janeiro, £40

Ammonium Sulphate—
Rotterdam, 5 t. 14 c.
Amsterdam, 51 16
Hamburg, 50

Bleaching Powder—
Calcutta, 30 t. 2½ c.

Borax—
U.S.A., £61 19s.
Rotterdam, 205 12
Hamburg, 1 t. 13 c.

Carbolic Acid—
Rotterdam £100

Caustic Soda—
Santander, 14 t. 15¾ c.

Chemicals (*otherwise undescribed*)
Christiania, £90

Citric Acid—
Rio de Janeiro, £23 10s.

Coal Products—
Aniline
Calcutta, £93
Benzol
Rotterdam, £540
Creosote Oil
New York, 75 t. 9 c.
Naphtha
Dieppe, 26 t. 12 c.
Pitch
Italy, £132
Karachi, 98
Dieppe, 1,315 t.
Tar
Christiania, £25
Rotterdam, 105
Drontheim, 5 t. 14 c.

Dyestuffs (*otherwise undescribed*)
Rio de Janeiro, £539

Farina—
Rio de Janeiro, £28

Lead Nitrate—
Italy, £42

Linseed Oil—
Auckland, 1 t.
Hong Kong, 4

Litharge—
Johannesburg, £21

Magnesium Sulphate—
Christiania, £31

Manure—
Italy, 4 t. 18¾ c.

Paint—
B. Ayres, £30
Iquique, 33
Canada, 128
Fremantle, 26

Painters' Colours—
Cape Town, qty.
Rangoon, "

Paraffin Wax—
Italy, £1,143
Stavanger, 6¾ c.
Paris, 30
Rouen, 23
Spain, 23

Potash Salts—
Mexico, 677

Potassium Bichromate—
Hiogo, £177
Italy, 1,075
U.S.A., 677
Christiania, 49
Rotterdam, 5 t. 4 c.
Canada, 346
Rouen. 437

Potassium Chloride—
New York. 50 t.

Potassium Cyanide—
Salaverry, £122

Potassium Prussiate—
New York, £190

Soap—
Bombay, 1 t. 6 c.

Sodium Bichromate—
U.S.A., 11 t.
Canada, 2 11¼ c.
France, 10 8
Rouen, 13 1¾

Starch—
Rotterdam, £12
Rio de Janeiro, 240

Sulphuric Acid—
Rangoon, £120

Tallow—
Rotterdam, 20 t. 6 c.

Treacle—
Christiania, 47 t. 15 c.
Bergen, 10 14
Delagoa Bay, 1 5
E. London, 1 11
Pretoria, 3 10

Varnish—
Hong Kong, £42
Christiania, 18

TYNE.

Week ending February 19th.

Alkali—
Gothenburg, 5 t. 3 c.

Alumina Sulphate—
Copenhagen, 1 t. 5 c.

Ammonium Chloride—
Gothenburg, 1 t. 2 c.

Ammonium Sulphate—
Antwerp, 105 t.

Antimony—
Antwerp, 1 t.
Rotterdam, 5

Barium Binoxide—
Antwerp, 10 t. 15 c.

Barytes—
Antwerp, 19 c.

Bleaching Powder—
Christiania, 20 t. 1 c.
Antwerp, 30 4
Copenhagen, 57 14
Rotterdam, 21 17
Gothenburg, 40 6

Borax—
Ergasteria, 14 c.

Caustic Soda—
Christiania, 5 t. 5 c.
Hamburg, 23 2
Genoa, 20 6
Gothenburg, 9 18

Linseed Oil—
Ergasteria, 17 c.

Litharge—
Gothenburg, 2 t. 3 c.

Magnesia—
Hamburg, 14 c.

Manganese—
Antwerp, 3 c.
Bilbao, 200 t.

Paint—
Antwerp, 15 c.
Hamburg, 15
Copenhagen, 16
Malta, 10
Rotterdam, 15
Bergen, 36 t. 2

Potash—
Ergasteria, 10 c.

Soda—
Christiania, 15 t. 9 c.
Aarhuus, 10
Rotterdam, 44 15
Esbjerg, 25
Gothenburg 10 8

Sodium Sulphate—
Trieste, 5 t. 5 c.

Tallow—
Genoa, 4 t. 14 c.

Whiting—
Trieste, 5 t. 1 c.

GOOLE.

Week ending February 16th.

Coal Products (*otherwise undes.*)—
Antwerp, 2 cks. 2 cs.
Boulogne, 4
Ghent, 3
Hamburg, 1
Rotterdam, 2 1

Colours—
Rotterdam, 8 cks.

Dyestuffs (*otherwise undescribed*)
Ghent, 1 ck. 1 cs. 1 pk.
Hamburg, 50
Rotterdam, 8 7

Manure—
Ghent, 146 bgs.
Rotterdam, 110

Pitch—
Antwerp, 1,228 t.
Dunkirk, 260

Soap—
Amsterdam, 1 cs.

GRIMSBY.

Week ending February 19th.

Alkali—
Malmo, 1 ck.

Chemicals (*otherwise undescribea*)
Antwerp, 19 pks.

Coal Products (*otherwise undes.*)—
Dieppe, 32 cks. 99 brls. 4 pks.
Hamburg, 10 btls. 9

Colours—
Antwerp, 3 cks. 1 cs. 1 pk.
Dieppe, 1

Pitch—
Antwerp, 69 t.

Varnish—
Dieppe, 10 brls.

PRICES CURRENT.

WEDNESDAY, March 2nd, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3½
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¼
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	20	10	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	18	0	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- &	33/-	
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	15	0
„ „ (grey) Hull	„	9	13	9
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	0	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	6
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	4
„ 50/90 „	„	0	1	6½
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	0	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	50	5	0
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	44	10	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	37	10	0
Iodine	nett, per oz.	0	0	7¼
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	12	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	17	6
„ „ (grey) (ex ship	„	7	17	6
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	10	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	10	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	7
„ „ Miscible, 60° O.P	„	0	3	6
Oils :—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	16	0	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % (do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	11	15	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	4¼
„ Borate (Borax)	net, per ton.	13	0	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton (10 ton lots)	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ (10 ton lots)	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ (10 ton lots)	7	5	0
„ „ (60 % Caustic Soda)	„ „ „ (10 ton lots)	6	5	0
„ „ (pure liquor 90° Tw.)	„ „ „ (10 ton lots)	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	4¾
„ English Ingots	per ton	67	10	0
Zinc (Spelter)	„	18	15	0
„ Chloride (solution, 160° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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AND

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE OLD COMPLAINT.

THIS week a matter has been brought before the notice of Parliament, which is of practical interest to a wide circle of our readers; we refer to the position of manufacturers in regard to the prevention of river pollution.

We have no occasion to concern ourselves greatly about minor Corporations and Local Authorities. They can be left to the tender mercies of the various River Committees, but it is an opportune moment for the question of manufacturers' pollution to come before Parliament, because the Mersey and Irwell Joint Committee has just issued its annual report, in which manufacturers generally are treated to a fair dose of flattery. In fact much of the soft soap that might well have been used to lubricate the bearings of the machinery which the Committee and Local Authorities have to work conjointly, seems to have been lavishly applied to manufacturers alone. The reason for such laudation seems to be that manufacturers have shown greater willingness to comply with the wishes of the Committee. That they would do so within reason no one but the Committee has ever doubted, but it is as well that the Committee should lay to heart the fact that if the manufacturers do "strike," the stubbornness of Corporations will be as a pea is to a pumpkin, compared with the doggedness that manufacturers will evince. They have a Protection Committee, and if after going to considerable expense they are still at the mercy of a toad-in-the-hole policy, smooth-tongued commendation will soon fail to satisfy.

The attempt to run a private Bill through Parliament in order to extend the powers of the Mersey and Irwell Act of 1892 to other authorities, has afforded an opportunity for pointing out how useless and unfair it is to extend these powers when the Government's own official representative—the Local Government Board—constitutes the greatest stumbling block to progress.

Action is being taken to remedy this anomaly, but such action will not dispose of the chief difficulty manufacturers have to face, namely, the absence of anything like a definite and reasonable standard of purity. The treatment of sewage and works' effluents is a costly affair. It may be a fairly simple matter to force Corporations to expend public money freely in order to purify their sewage, but manufacturers are in a position which will enable them to clearly show what proportion the cost of treatment can justly be expected to bear to the profits of manufacture. The whole matter turns on a question of expediency, and manufacturers will insist ere long on a tentative definition of what is expedient being placed before them as a guide. The hardships attending the absence of any such definition, or standard, were forcibly brought before Parliament this week by Mr. Kenyon, and are not done with yet.

A standard will have to come, and the sooner the better.

By a standard we do not mean figures that are used by Rivers Committees for their own guidance in the classification of effluents, but a degree of purity judged by fixed and universally understood tests, the attainment of which exempts manufacturers from all responsibility as long as that state of purity is maintained.

THE NITRATE POOL.

The latest development in the nitrate world is an attempt to organise a fresh Combination. It has been mooted for some weeks past, but there are signs that endeavours are being made to crystallise-out something from the mother-liquors of rumour.

The last Combine very painfully proved how futile it was to restrict the output sufficiently to raise the price appreciably, seeing that when nitrate became scarce and dear enough to remunerate the "weaklings," in came young, healthy competitors and upset the apple-cart.

The only way to avoid a repetition of this would be to obtain a promise from the Chilian Government that they would sell no more nitrate grounds during the existence of the Combine, but supposing such a promise to be forthcoming, what guarantee is there that it would not be broken? There is certainly no inducement in such a direction. On the contrary, there is a direct incentive to depart from it. The Chilian Government is dependent on the nitrate industry for a large percentage of its revenue. It also is the owner of unsold nitrate properties. Since the Combine by limiting the output would inevitably limit the revenue, we are inclined to think that under the circumstances there is not the slightest chance of the Government binding itself down not to realise fresh grounds. This negative deduction almost becomes a positive certainty when it is remembered that there are several *private* owners of nitrate grounds who would be willing to sell if there were buyers. Judged in the light of these facts, the future of a Combination which aims at bolstering up those companies that are now suffering from "blight," seems to be a blank.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

A MEETING of this section was held on Friday, the 4th inst., Mr. George E. Davis presiding. In the customary half-hour devoted to such matters, Mr. Aspinall (of Farnworth) briefly referred to the beneficial results obtained by injecting chlorine into sewage effluents, particulars of which he promised to bring before the section in due course.

The adjourned discussion on the "Oxygen Test," as carried out in the Laboratory of the Mersey and Irwell Joint Committee, was re-opened by the Chairman, who read the transcript of the shorthand notes of his summary of the discussion which took place during Mr. Scudder's illness, so that the latter gentleman might be fully conversant with all that had taken place previously. Mr. Scudder then addressed the meeting for something over two hours, dealing at considerable length with several personal matters, and also with the remarks of those who had criticised his method of conducting the Oxygen Test. He denied emphatically that any difficulty had been raised with regard to giving information about the test, and quoted the correspondence to show that that denial was correct. The laboratory of the Joint Committee had then been, as it still was, open to any chemist who had to deal with the effluents from public or private works within the watershed over which the Joint Committee had charge. Nothing less could be expected, and nothing less had been the rule. He was most desirous to secure proper inquiry into the questions that concerned the examination of the effluents in the watershed. In defending his test he contended that his method was reinforced by a number of authorities, whose experiments he quoted. It transpired that the liability to secondary decomposition was ascertained by incubation at an elevated temperature for a week. At the conclusion of Mr. Scudder's remarks the discussion was again adjourned.

Parliamentary Jottings.

LEAD POISONING IN THE POTTERIES.

In the House of Commons last week Sir C Dilke directed attention to the disease and death among persons employed in the lead industry, and suggested there should be a special inspector for the district in which the trade was carried on. He failed to understand the reason for the changes that had been made in the department of women inspectors, which before was working well, while under the new red-tape regulations there was undoubtedly greater delay in dealing with complaints.

In reply, Sir M. W. Ridley said he was afraid that there was great danger from this cause to the health of persons employed in potteries, especially women and young children, and he was of opinion that the present special regulations were not adequate in their operation. The subject was an urgent one. He had had several reports upon it, and he was now in consultation with the chief inspector of factories, with a view to modifications of the special rules as would strengthen their efficiency.

Mr. Asquith said, as regarded the white lead trade, it would be a great thing if some sort of respirator could be invented which would protect the worker from the poison, but as matters stood the only suggestion he would make was that there should be a medical examination precedent to young people going into these trades at all, and that that initial examination should be followed by periodical examinations of the same kind.

THE SALE OF CARBOLIC ACID.

In answer to Mr. Woods,

Sir M. White Ridley said that the Privy Council were of opinion that regulations should be made with regard to the sale of carbolic acid and other poisonous substances, and they were preparing a Bill, which would shortly be introduced.

RIVER POLLUTION—TREATMENT EXPENSIVE.

On Wednesday, Sir. J. Dorington, in the absence of Sir F. Powell, moved the second reading of the Rivers Pollution Bill, the principal object of which is to improve the law for preventing the pollution of streams by extending to county councils, joint committees, and rivers boards in England the main provisions of the Mersey and Irwell Act of 1892 and the West Riding of Yorkshire Rivers Act of 1894.

Mr S. Hoare moved the rejection of the Bill. The measure, he said, contemplated interfering with those corporations which made use of any streams to carry off the surplus water in their respective towns. If the House were to pass the Bill a considerable amount of the money which the city of Norwich (his constituency) had spent would be practically thrown away, and many of the sewers which the Corporation had made would become useless. He objected to a private member bringing in a Bill of this kind, and contended that if the other River Pollution Acts which had been passed were not sufficient to prevent injury to our rivers it was the duty of the Department of the State which had charge of such matters to introduce a Bill itself upon the subject.

Mr. Tomlinson seconded the amendment, and remarked that some difficulty would arise in connection with the clause dealing with rainfall and the provision of storm overflows. He thought the whole matter required careful consideration.

Mr. T. W. Russell said the question of river pollution had become a serious one. In Lancashire and Yorkshire the Local Government Board had found great difficulty in carrying out the law, and they intended to appoint a Commission which would inquire as to the best method of dealing with this troublesome question, which was growing more and more important. The view that the Government took of this Bill was that although it required careful consideration it should be given a second reading and sent to a Standing Committee.

Mr. Kenyon said the mover of the second reading seemed to speak favourably of what had been done by the Mersey and Irwell Joint Committee, but he (Mr. Kenyon) should like to bring before the House the great expense which the regulations of the Committee imposed on manufacturers. In the first place they had never allowed a standard of purity to be promulgated, and that had been regarded as a most serious obstacle to the manufacturers of Lancashire and Yorkshire. It was all very well to talk in this House about purifying the rivers of the county, but there must be some limit to the expense which that purification caused. A few years ago a learned judge held that water which had merely passed through the condensers of an engine deteriorated the brook into which it was turned. If they were to have a standard of purity set up by any authority, they would have to spend an enormous sum on purification alone. At the present time the cost of purification to manufacturers in the Mersey and Irwell district averaged £250. per annum. That was a very serious expense, and one which few trades were not subjected to.

The hon. member had not concluded his speech when the debate, by the rules of the House, stood adjourned.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Zinc from Refractory Ores. J. Jones. 4,296. February 21.
Rendering Carbide Non-hygroscopic. P. Jensen 4,298. February 21.
Securing an Intermittent Flow of Effluent to Filters. J. Kirkman. 4,347. February 22.
Cyanogen from Coal and Coke Oven Gases. W. J. Farmer and J. M. Sommerville. 4,410. February 22.
Metallic Beryllium. L. Liebmann. 4,422 February 22.
Extracting Metals. S. H. Johnson. 4,443. February 22.
Storage Receptacle for Calcium Carbide. L. Rümelin and H. Aner. 4,459. February 22.
Cathodes. V. I. Feeny. 4,514. February 23.
Aerating Sewage Filter. J. Barnes. 4,565. February 24.
Making Nitrate of Ammonia Anhydrous and Non-deliquescent. E. J. C. Christie. 4,567. February 24.
Manufacture of Soap. L. Grote. 4,577. February 24.
Cyanides from Coal Gas. W. J. Forster. 4,608. February 24.
Electrolytic Manufacture of Alkaline Bichromates. J. Heibling 4,624. February 24.
China Clay Kilns. G. M. Henley. 4,708. February 25.
Fire and Water Proofing Wood. H. V. Simpson. 4,709. February 25.
Generating and Enriching Hydrogen Gas. E. A. Mitchell. 4,717. February 25.
Preparation of Glycerine and Fatty Acids. H. H. Lake. 4,741. February 25
Tanning by Electricity. U. P. Anderson, J. Westengaard, and H. Zerener. 4,764. February 26.
Soap. S. V. Kay and Kay Bros. 4,773. February 26.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in the Treatment of Ores and Apparatus therefor, the invention being also adapted for the Treatment of Sewage. J. Poole, Coolgardie, West Australia. Eng. Pat. 14,575. June 16, 1897.

The metallurgical applications of the invention are very fully set forth, but its application to sewage treatment is disposed of in two lines. The slimes are mixed with water, and passed into a shallow tank fitted with agitating rakes. Any free gold settles out, and the pulp flows on into a series of these trays fitted with harrows, in which the tailings, etc, are cyanided or otherwise treated. Eventually, the mixture passes into settling-vats, with V bottoms, in which elevators work and lift the tailings to a second vat, and so on. The settled liquid is run off and treated in the usual way. Obviously sewage can be treated and settled in this apparatus. There are three figures.

Improvements in Treating Iron and Steel. T. Korovine, N. Klatschko, and J. Berthenson, all of House Koeppen, Furkassovsky Pereulok, Moscow. Eng. Pat. 5,796. March 4, 1897.

The object is to steel-face parts of machinery. The steel to be welded on is shaped first, then the piece is heated to redness and plunged into a bath of molten resin 4 parts, turpentine 1 part, and hempseed oil 1 part. The steel is then adjusted and heated to welding point when it is welded by hammer, mould-pressure, or rolling. The nature of the steel is restored after heating by plunging while still warm into a cold bath of the above mixture, made liquid by the addition of naphtha. There are two diagrams showing the effect of the treatment on a shaft bearing and chain links.

Improvements in the Manufacture of Carbonate or Sulphate of Lead. A. H. Eyles, 103, Madison-avenue, H. S. Rapelye, 103S, 6th-avenue, and A. Applegate, 316, Franklin-avenue, all of Mount Vernon, Westchester N.Y. Eng. Pat. 30,242. December 21, 1897.

Molten lead in a fine shower is delivered at a temperature approximating its volatilizing point, so as to meet with a current of hot air or superheated steam, which comminutes the lead globules into a veryfine spray. The current of air carries the lead spray along a tunnel into a box, at the bottom of which is a layer of weak nitric or acetic acid. The mixture of oxides is transferred to a revolving tub with a quantity of hot water, and blown with hot air; the higher oxides give up their oxygen to the minute particles of metallic lead which are present, while the lower oxides take oxygen from the air, forming eventually an homogeneous protoxide, which is carbonated or sulphated at will. There are four figures showing the apparatus used.

Improvements in the Manufacture of Alizarine Lumps. J. Y. Johnson, 47, Lincoln's Inn Fields, London Eng. Pat. 21,398. September 17, 1897.

Dry alizarine, which can be used again for dyeing purposes, is prepared by mixing 1,000 parts of 20% alizarine with 4,000 to 6,000 parts of water and about 200 parts of silica in the form of tripoli, Kieselguhr, etc. The mixture is filter pressed and the cakes dried at 55° C. The advantage is that cakes containing as low as 10% of alizarine can be produced. There are also many minor advantages.

Improved Tank for Conveying Corrosive Liquid in Bulk. J. V. Paterson, Coin-street, Stamford-street, London (communicated by J. Paterson and A. J. Oke, both of St. George-street, Cape Town). Eng Pat. 3,491. Feb. 10, 1897.

A tank is made with sheets of a lead alloy prepared by adding from ½ to 5% of copper or antimony. The tank, which is "burned" together is enclosed in an iron shell, the space between the lead lining and the shell being packed with any material insoluble in the fluid to be transported. For sea passages the tank is made in cellular fashion to prevent any dangerous movement of the contents. A well is placed at the bottom of the lead tank to facilitate the pumping out of the contents.

ALKALI MANUFACTURE IN MICHIGAN.

THE manufacture of alkalies in the Detroit district, Michigan, U.S.A., is growing very rapidly, and the Pennsylvania Salt Co. have bought land down the river and intend going into the manufacture of soda ash, caustic and bicarbonate of soda by the ammonia soda process. According to the *Oil, Paint and Drug Reporter*, this will be another attack on the trade of the oldest company in the United States, and the views of a prominent manufacturer down the river seem to indicate that there cannot possibly be any rise in prices until a combination takes place. The corporation which commenced the manufacture of alkali on the Detroit river has been allowed to extend and increase its works so rapidly that it can now demand a combination to put prices on a remunerative basis. Its output has crept up since 1894 from 60 tons to 200 tons per day, and it is reported that there will be a still further increase in the output. The bicarbonate plant is now producing largely, and the caustic plant is running full time and turning out a caustic of very fine grade. In the near future we can look for a drop in the price of caustic, and then a combination is almost assured.

The United Alkali Company, Ltd., has contracted for its wells, the contract having been made with T. Percy, of Ludington, who drilled the first wells for the ammonia soda trade down the river.

FOUND PYRITES.

A sample of iron pyrites running 36 per cent. sulphur has come to hand, and in the near future, if prospects materialise in finding even better than this, sulphuric acid will be made in Michigan. Strontium sulphate has also been found in abundance and a market for this will be found in the manufacture of strontium. Calcium carbonate searches have been made and an 88 per cent. oxide has so far been made. This will assist in the manufacture of caustic soda, and as the carbonate enters largely into the manufacture of beet sugar, factories for which are now being exploited, a large demand may be expected.

The Joy Morton Salt Works are making progress and Wayne county has now reached the highest point in its history for the manufacture of salt. It will soon surpass all other counties in Michigan.

The Detroit Soap Works are now increasing their plant and are putting in a plant for the manufacture of caustic soda and the recovery of glycerine.

The Solvay Works are not running full, having only placed about one-half their output. They have contracted to supply Delray with electric light and are assisting toward a fire deparment for the newly incorporated village. Reports say that the output of limestone from the Sibley limestone quarry has now reached 1,000 tons per day, the Wyandotte Works taking 500 tons per day. There is a good field open for other quarries in this vicinity, but none have branched out.

The new Detroit and Lima R. R. will prove very beneficial to alkali works along the Detroit river, opening up fresh fields for fuel and general supplies.

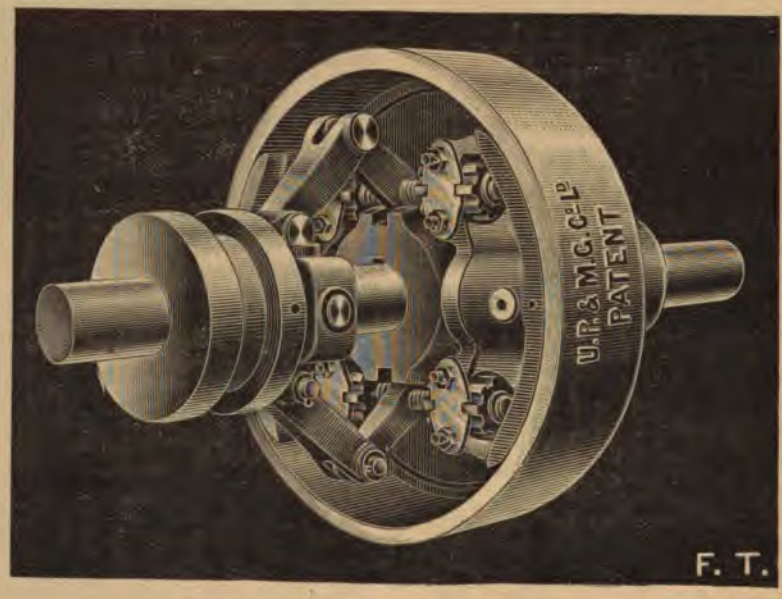
SOAP STONE AS AN EMULSIFIER.—An argillaceous earth named "Tfol," which contains free gelatinous silica, is largely used in Northern Africa by the Arabs as a substitute for soap in washing linen. Lahache finds that it has great capabilities of absorbing oil, 1 part of this substance completely absorbing 5 parts of heavy tar oil. When the compound is mixed with water a perfect emulsion is formed, which does not adhere to the sides of the vessel. It is proposed to employ this earth for the purpose of emulsifying heavy tar oil for disinfecting purposes. For this purpose the "tfol" is first mixed with an equal weight of water, and then intimately incorporated with sufficient heavy tar oil to make a paste.

A NEW FRICTION CLUTCH.

THE friction clutch illustrated below has been designed to overcome some of the many difficulties attendant upon this apparently simple, but really very exacting class of mechanism.

With regard to the clutch proper, it is not greatly different in the main design from some others in the market. The driving power is transmitted by heavy arms or horns on which the friction blocks slide, so that all strain, except that of putting the blocks into gear, is taken from the screws. These are two in number, right and left-handed, and the arm for their rotation is forged solid. The main and lock nuts are gun metal, to avoid any chance of rusting should the clutch remain for long, either in or out of gear.

The patented novelty lies in the method of the application of the power to the usual sliding sleeve upon the shaft to the extremities of the screw levers. Instead of the connecting links being carried in rigid centres on the sleeve, as is usually the case, they are pinned to a gimbal or ring pivoted on the sleeve. It will be seen that, by this arrangement, any pressure put upon the sleeve must be transmitted with absolute equality to the two friction blocks, as either one of these gives the reaction for the other. Any chance of uneven wear on the blocks or undue strain upon one part of the mechanism is thus avoided.



A number of these new clutches, as made by the Unbreakable Pulley Co., West Gorton, Manchester, have been sent out and have been at work a considerable period. Many repeat orders have been received, and not a single complaint. The clutch is not expensive, but the makers hold that such an article cannot be cheaper than any other in first cost and yet be good, and they have had considerable experience and much trouble with previous designs.

The clutch is made in various sizes according to the diameter of shaft and power to be transmitted, and may be used either to couple shafts or to carry a pulley.

Adjustment is provided for in all ways, and all the parts—although guarded by the outer shell—are in full view, and at once accessible.

Another "Smoke" Cure.—It is reported from Berlin that a company will shortly be floated in London to acquire for Great Britain the patent rights of the Carl Wegener system of smokeless and automatic powdered coal firing. The simplicity of the apparatus and the successful results it achieves are said to commend it alike to the owners of the 300,000 boiler furnaces of Great Britain and also, it is urged, to our naval constructors. The invention consists in feeding the furnace flames with powdered coal dust instead of with solid lumps of coal. It is claimed that not only does the invention save a large percentage of coal, but that it enables the inferior qualities of coal to be used with equally satisfactory results. The one drawback at present is that the powdering of the coal has to be performed as a separate operation, the grinding machine being so large as to preclude the practicability of its being combined with the coal receiver in front of the furnace. We are open [illegible] criticism, but we are by no means satisfied that this "one dr[illegible] [illegible]e only one.

MERSEY AND IRWELL JOINT COMMITTEE.

THE MANCHESTER SEWAGE SCHEME.

A MEETING of the Mersey and Irwell Joint Committee was held on Monday at the offices, Mosley-street, Manchester, Mr. T. W. Killick presiding.—Mr. W. Noton wrote expressing regret that owing to the state of his health he could not accept the office of vice-chairman of the Committee, to which he had been elected.—The Consulting Sub-committee reported with regard to the condition of the sewage works of a number of authorities. The Hindley Urban District Council, the Sub-committee stated, had, through their clerk, written explaining the cause of delay in carrying out works to be known as the Hindley Green sewage scheme. The Sub-committee did not consider the letter satisfactory, and they recommended that proceedings be taken against the Council. They recommended an extension of time for two months to the Droylsden Urban District Council, in order that the Council might let the contracts for the completion of their sewage works. As regarded the works of the Moss Side Urban District Council, the Committee stated that "On the 11th February, when one of the sub-inspectors visited these works he found untreated sewage was being turned direct into the river Mersey." At these works this kind of offence was very difficult to detect, and the Sub-committee recommended that the Clerk should take proceedings agaist the Moss Side Council. With regard to the Manchester, Salford, and Bolton Corporations, the Committee reported that Sir H. Roscoe had laid before them analyses of the effluent from the works of each of those bodies. They recommended that copies of these analyses should be sent to each of these corporations. The effluent in each case was stated to be bad. The Sub-committee reported further that Sir H. Roscoe had laid before them the analyses of 22 samples of sewage effluent from the works of local authorities. Of these 13 were described as good, two as fair, two as unsatisfactory, and five bad.

The Clerk (Mr. Hulton) read a letter from Sir Bosdin T. Leech, chairman of the Rivers Committee of the Manchester Corporation, which described the recent changes brought about in the composition of the Committee and the measures taken with regard to the improvement of the means of disposal of the Manchester sewage. The Committee, Sir B. T. Leech pointed out, had visited sewage works in various parts of the country, and were considering those schemes. As he was leaving England for Canada, he asked the Joint Rivers Committee to defer consideration of the question as between the Committee and the Corporation, which would come before the court on March 25.

THE L.G.B. AND FILTRATION.

Dr. Hewitt asked whether any communication had been received from the Local Government Board on the subject of the suggested inquiry by a Parliamentary Committee into the best means for the disposal of sewage. This, he pointed out, was a matter of the first importance. Public authorities had between them spent millions of money in providing schemes. It was almost certain, however, that many of these schemes were useless for the purpose for which they had been devised. The Local Government Board had demanded land

on, and filtration schemes had been carried out on land unfit for urpose. It was perfectly clear that it was useless for local ities to spend huge sums of money in providing schemes which carried out would be practically useless.—(Hear, hear.) Yet as exactly what had been done, as that Committee had, in its ence, been able to discover. On all grounds, therefore, it was le to know whether the Committee of inquiry was, as had been in the public prints, to be appointed —(Hear, hear.) He pro- that a letter be written to the Local Government Board asking er the Board had taken any steps in the matter.

motion was seconded, and agreed to.

V. K. Armitage moved, and it was agreed, that a special meet- the Committee should be held at a future date to consider the stances with regard to Manchester, Salford, and Bolton, as con- in the report. The 21st inst. was named as the date of the g.

C. Hunter, referring to the report of the Sub-committee relating Moss Side Council, said that, as representing that division, he point out that the Council was a comparatively new authority, at it was by an error of judgment on the part of an official that vage was turned into the river instead of on to the land.

report and recommendations of the Sub-committee were adopted.

TWO YEARS' PROGRESS.

Chairman said they had received a valuable report on the general n of the work of the committee from Mr. R. A. Tatton, the spector. The report showed that in the area of the Mersey and watersheds there were seven county boroughs, with a population 9,331, and a rateable value of £5,214,252.; eleven non-county hs, with a population of 294,677, and a rateable value of 11.; sixty-two urban district councils, with a population of o, and a rateable value of £2,674,721.; and ten rural district ls, with a population of 122,313, and a rateable value of 23. The total population was 2,235,941, and the total rateable £9,731,008. On the rivers Irwell and Roach there were 278 cturing works, on the Irk 43, on the Medlock 21, and on the 68, making a total of 410 manufacturing works. As regarded posit of solid matter, the improvement reported on in March, had been well maintained, and the bed of the river in its upper s was now practically free from cinders. Under the head of d sewage pollution," it was stated that the progress made by the uthorities during the past two years had been, on the whole, tory. In 1892 there were 74 urban authorities. Now there o urban authorities in the area under the charge of the Com- Of the 74 only 27 had works in operation in 1892. In January year there were 61 such authorities with works in operation. s this, 16 now had works in process of construction, as compared ight in 1892 That some of the works would prove unequal to sk of dealing with the whole of the sewage of the district for they were constructed was more than likely. In many cases the f land required by the Local Government Board, in addition to nks and filters, was not being set out, with the result that too work might be thrown upon the filters. The report added that of the land which has been acquired is no doubt unsuitable for on, but in many cases this excuse cannot with justice be urged, think the Joint Committee in these cases, if the works fail, should upon its being used" Orders of Court to cease pollution had btained in 39 cases against local authorities. The report described ogress of the works in the areas controlled by the various councils. regard to Manchester and Salford, the report stated: "These uthorities are both under orders of the Court; their united ition amounts to more than one-third that of the whole hed. The cost of filtration works is probably the stumbling- ; but although the amount required is undoubtedly a sum, if it is compared with the population or the rate- value the outlay on either of these bases is small com- with what many other towns have had to incur. hester has up to the present time spent less on sewage works, on sis of the rateable value, than any other town in the watershed, lford comes next. When they have carried out filtration works vill still be considerably below the majority of their neighbours filtration is necessary is now generally recognised, and that the t treatment at the Manchester and Salford outfalls is insufficient en very clearly demonstrated by samples which have been taken different points on the Ship Canal." The works and under- s carried out by private manufacturers were also dealt with fully report, and it was pointed out that a general Act, on somewhat r lines to the Mersey and Irwell Act of 1892, would be of service in other watersheds. The Chairman, referring to the , said that it proved very clearly that excellent work had been by the Committee. He might add, as the account given covered od of two years, that the Committee had been met in a most ous and laudable spirit by the manufacturers with whom they arily had been brought into contact. That had made their work both of more advantage to the community and of a more agreeable character than it would otherwise have been. He was sorry that in each instance the same generous spirit had not characterised all the public authorities With regard to public authorities, the desire of the Committee had always been that they should be led rather than driven. It should have been perceived that it was to their advantage to act with the Committee in securing the purification of their streams and rivers.

Dr. Hewitt drew attention to the passage in the report which stated that some of the land acquired by authorities was unfit for filtration purposes. It was, he urged, no use to carry out works, unless by those works there could be secured a satisfactory effluent. He did not think they could regard with satisfaction the action of the two largest authorities with whom they had to deal. Those authorities had helped to gird other local bodies who controlled smaller areas into carrying out necessary works, whilst they themselves stood still. It was not a proper thing to do, and he ventured to appeal to the consciences of those corporations to institute measures which would remedy the present condition of affairs.

Mr. V. K. Armitage moved that the report be printed, and referred to the Sub-committee for their consideration —This was agreed to.

Some conversation ensued with regard to the re-appointment of Sir H. Roscoe as consulting chemist to the Committee. It was stated that the term for which the appointment was made would expire on March 31st. The Committee decided that the question should be considered at the special meeting to be held on the 21st inst.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for December. The total shipments were 90,791,903 gallons, compared with 86,353,163 in 1896. The total for the twelve months ending December 1897, were 904,297,757 gallons, against 931,785,022 gallons during the same period in 1896. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Dec., 1897	10,404,768
,, ,, 1896	11,879,662
NAPHTHAS.	
Total, Dec., 1897	1,231,970
,, ,, 1896	1,542,275
ILLUMINATING.	
Total, Dec, 1897	71,786,378
,, ,, 1896	68,364,376
LUBRICATING AND PARAFFIN.	
Total, Dec., 1897	5,091,505
,, ,, 1896	4,566,052
RESIDUUM.	
Total, Dec., 1897	2,277,282
,, ,, 1896	798

CHEMICAL AND FERTILISER TRADE OF CHARLESTON.

DURING the past commercial year the entire Southern country of the U.S.A. has suffered from general trade depression, which has naturally affected the fertiliser industry. Indeed, the business is subject to many risks; large sums of money have to be expended in manufacturing and handling the goods which must be put out at a venture, dependent for profitable returns on the extent and value of crops.

Shipments of fertilisers from Charleston last year were 374,494 tons, compared with 257,715 tons during the previous season of 1895-96; being a gain last year of 116,779 tons, nearly 50 per cent. The total output of the mills is estimated to have been nearly 400,000 tons, some of the companies manufacturing from 20,000 to 80,000 tons yearly, and using in the process such materials as kainit, blood, tankage, cotton-seed meal, potash, and phosphate rock, all of which are cash articles.

These figures show that last season's fertiliser business was large, and manufacturers were fairly well satisfied with the results of the year's operations, and when the new season opened, September 1 last, they were busily engaged in overhauling buildings, works, machinery, acid chambers, and wharves, and putting the same in good order for the next year's trade, which was expected to be large, and possibly to exceed any previous year.

It is expected that the State of Georgia alone will use this season 400,000 tons of commercial fertilisers, more than the quantity consumed by any other two States combined, much of which will be supplied by

Charleston mills. North Carolina's consumption closely approximates 200,000 tons, the result being that nearly the whole of last year's South Carolina product of 400,000 tons was sold when the new season opened on September 1, 1897.

The following comparative statement of shipments of fertilisers from the three principal ports in the Consular district of Charleston, Savannah, and Port Royal, will show the relative importance of each, and also give some idea of the total business.

FROM—	QUANTITY. 1896. Tons.	1897. Tons.
Charleston	257,715	374,494
Savannah	90,000	120,000
Port Royal	35,000	35,000
Total	382,715	529 494

CHEMICALS.

The imports of chemicals used in the manufacture of fertilisers at Charlestown, during the year ending August 31, 1897, were 107,828 tons, valued at 810,941 dol.; compared with 58,938 tons, imported the previous year, with a valuation of 433,400 dol.; showing an increase last season of 48,890 tons, of 377,541 dol. value. The principal chemical imports consisted of:—

	QUANTITY. Tons.
Kainit	42,349
Brimstone	8,900
Muriate of potash	5,289
Sulphur pyrites	20,570
Nitrate of soda	1,095
Manure salt	718
Sulphate of potash	121
Sulphur ore	28,786

In addition to the above imports of chemicals at Charleston, there were also imported to Savannah 120,000 tons, and to Port Royal 35,000 tons during the season.

Of the above mentioned imports, the bulk of the pyrites and sulphur ore came from Spain and Portugal; the brimstone from Italy; the kainit, potash and manure salt from Germany, and the nitrate from the nitrate beds of Chili; little or nothing now being imported direct from Great Britain.

The depression in phosphate trade last year was not confined to South Carolina, but extended to Florida, Tennessee, and other mining regions. In this State river mining operations were considerably interfered with by unfavourable legislation, and concessions in the way of reduced royalties on rock have come too tardily to save the industry from serious loss, and much trade has gone to other competing States. The Coosaw Company, the largest in the State, has closed down its works and suspended operations indefinitely, the Farmers Company have also gone out of the business, and another company failed during the past autumn to pay expenses, and was also obliged to stop work.

It is estimated that the present mining capacity of the United States is equal to 1,000,000 tons of phosphate rock a year. The variety of the rock is considerable, and the mining equipment extensive and capable of indefinite improvement, and seems likely to meet any demand for the future arising from the further growth and development of industry.

There are two classes of mining operations now carried on in this State, land and river mining. What is known as land rock is taken from land mines where the phosphate deposits are found from 6 to 15 feet below the surface of the ground. Land rock is generally used in local fertiliser manufacturing for supplying the American demand, there being little or no shipments of fertilisers from this port to foreign countries, the foreign demand, to the present time, having confined itself almost exclusively to crude or dried rock in its unmanufactured state.

River rock is dredged from the rivers of the State, the principal supply being obtained from the beds of the Coosaw, Bull, and Beaufort rivers, situated in Beaufort, South Carolina, and this variety is mostly shipped to foreign countries, where it forms the basis for commercial manures manufactured abroad.

Phosphate rock is found along the margins of most of the navigable rivers in this State, and also in the river beds; much of it is convenient to main lines of railways, and can be delivered cheaply and quickly alongside of steamers and sailing vessels for shipment to other countries.

The royalty now payable to the State on phosphate river rock is 25 c. (about 1s.) per ton, a reduction from 50 c. per ton having been made a year ago. Notwithstanding this reduction, however, there was a great falling-off in the amount of royalties received last year by the State, which amounted to 121,602 dol., compared with 174,400 dol. for the previous season, a decrease last year of 52,798 dol. The mining companies also sustained heavy losses, owing to the combined ill effects of low prices, keener competition of Florida and Tennessee phosphate products, and the attitude of the State authorities heretofore shown toward the mining companies.

Since the State Board of Phosphate Commissioners were finally induced to reduce the royalty to 25 c., it appears probable that new people with means and experience may go into the Coosaw River before long to mine rock, it being understood that the Empire Phosphate Company will operate in this territory, which was formerly worked by the Coosaw Company.

TENNESSEE ROCK.

The phosphate rock which has been discovered in Tennessee has within the past three or four years come forward as a strong competitor with the Carolina and Florida product. It, however, varies greatly from the Carolina and Florida article. Tennessee rock is darker in complexion and denser; it does not require washing and drying, and as a general rule is of good grade, but its analysis does not run uniformly, often differing considerably in the same deposits. After it is crushed it grinds easily and also slacks up in drying.

Many of the deposits are situated, however, in places more or less remote from railway and steamboat transportation facilities, this being particularly the case with the early discoveries which were made in Swan Creek, Trotty's Bend, Centreville, and Blue Creek, but the newer discovered fields in Davidson, Hickman, Rutherford, and White counties, are more advantageously located, being all very near the railways.

Accessibility and convenient means of transportation are also enjoyed by miners operating in Maury County. Mines also have been brought to public notice in the neighbourhood of Mount Pleasant, and these, together with mines in Bradley, Marshall, Sevier, Perry, Lewis, Wayne, and Decatur Counties, are near the Tennessee River, and it seems likely that operations at these places may be conducted profitably, and possibly develop considerable business on account of shipments to New Orleans, St. Louis, Pensacola, and Norfolk.

It is difficult to get accurate information of the phosphate rock mined or used in North Carolina, as the business is comparatively small in that State. The shipments of phosphates from other States are large, and manufacturers use rock from South Carolina, Florida, and Tennessee in manufacturing their goods. There is a large consumption of commercial manures throughout the State of North Carolina, approximating 200,000 tons during the past year.

FLORIDA.

Florida is by far the most important and dangerous rival that South Carolina has to contend with in the phosphate business; varied and valuable deposits have been discovered and are now worked in that State, each good of its kind, and in qualities are as follows:—hard and soft rock, land and river pebble, and river rock.

The cost of mining most of the Florida rock is comparatively small when contrasted with mining operations elsewhere; and in order to meet competition and build up the business that State no longer requires a royalty on rock mined within its domain. The growth of the Florida industry has been somewhat retarded by the inconvenient distances of some of the deposits from railways and watercourses of a navigable character; the difficulty and cost of transportation having acted as a check on what would, otherwise, have been a larger output for the year.

The principal outlets at present, by water, for shipments of Florida rock are by way of Jacksonville, Fernandina, Brunswick, Savannah, Tampa, Punta Gorda, and Key West, and, as railway facilities are now being extended, miners are gradually becoming relieved from the unfavourable conditions under which they have hitherto contended. Most of the Florida rock is shipped to foreign countries; as yet she does not manufacture fertilisers, and consequently has not, in this respect, come into competition with Charleston's large fertiliser industries; but owing to the cheapness and good quality of the rock it is expected that, in time, numerous fertiliser-manufacturing establishments are sure to be established in the State, which will then be able to compete with South Carolina's fertiliser business as it does now in the phosphate-rock trade.

A New Competitor of Saccharine.—Helogen is a new article, recently introduced abroad, which Messrs. A. Klipstein & Co. announce they will soon offer in the American market. It is claimed to have many points of superiority over other sweet materials, and will effect great economy to nearly all users of sugar. Further particulars may be obtained of them upon application.

Enamelled Iron Pipes.—We are informed that Messrs. Henderson, Kandt, & Co., Ltd., have succeeded in coating the interior of iron pipes of small diameter with a smooth and perfect layer of porcelain enamel, and they are placing them on the market under the name of "Perlam Conduit." This announcement will be of interest to many of our readers who have hitherto been accustomed to use glass-lined tubes for the conveyance of corrosive fluids.

Reports of Companies.

PRICE'S PATENT CANDLE CO., LTD.

THE directors, in their report for the past year, state that although the company's profit for 1897 has been less than that for 1896, the diminution has occurred from unavoidable circumstances, and it is satisfactory to be able to report that the volume of the company's business was well maintained, and in some departments increased, although competition in almost every branch has been so keen that even the maintenance of the sale of goods at the level reached in 1896 would have been gratifying. The result has necessarily been a cutting down of prices, and consequent reduction of profits, especially in the candle and soap departments, where the struggle has been unprecedentedly acute; nor can it yet be affirmed that this state of things has come to its worst, for present appearances do not indicate any diminution in the intensity of the competition. The profit for 1897 amounted to £77,531, as compared with £83,967. in 1896 and £82,858. in 1895. Adding to the profit of 1897 the £6,919. brought forward from 1896 (together £84,451.) there remained at the close of the year 1897, and after deducting the dividend of 15s. per share, amounting to £28,125, paid in September last, a disposable sum of £56,326. The directors recommend that out of this sum £12,500. be, as usual, written off for depreciation of fixed properties and plant; that £32,812. be applied in paying on the 19th instant a dividend of 17s. 6d. per share, completing the year's dividend to £1 12s. 6d. per share, as against £1. 13s. 6d. per share for 1896 and £1. 12s. 6d. for 1895; that £5,000. be added to the reserve fund, which will thus be raised to £40,000.; and that £6,013. be carried forward. The company's invested money amounted on December 31st, 1897, to £245,771., of which £150,208. represented the aggregate amount of unclaimed dividends, and the savings bank, the general insurance, the pension, the accident, and the reserve funds respectively, and the balance, £95,563, represented unemployed capital. During 1897, whilst due economy was exercised, the work of paramount importance, improvement of the plant and processes, was carried on vigorously in the assured conviction that raising the quality of the products and reducing the cost of their manufacture are the most certain means of extending the company's business. Important advances in this direction were made in the two great departments in which raw goods are converted into finished materials for candle-making, namely, those of paraffin and stearine manufacture; and the shareholders may confidently believe that the profit of the year was not assisted by injudicious parsimony in expenditure upon improvements in either of the company's factories. Part of the Belmont Paraffin Refinery having become too small for its purpose, and too much crowded with plant for safety, a new and larger building was erected, and is now being equipped for work; and, as a portion of the same building, an enlarged paraffin store was erected. The company's land on the Fulham side of the Thames, opposite to the Battersea factory, was embanked along its whole river frontage, and the portion of it wanted immediately for storage purposes was enclosed and furnished with a steam crane. The company now possesses an aggregate frontage to the Thames of nearly half-a-mile, protected by a substantial concrete river-wall.

NATIONAL EXPLOSIVES.

The report of the directors for the year ended December 31 last states that the result of the year's working shows a continued state of prosperity. The profits for the year amount to £26,204, which, with the balance of £568. brought forward from the previous year, gives a total of £26,772. The directors recommend that dividends shall be paid on the amounts paid up on the preference and ordinary shares on December 31, 1897, at the same rate as those for the previous year, viz., 9 per cent. on the preference shares, 11 per cent. on the ordinary shares, and that the deferred shares shall receive £4. 4s 6d. per share, which, together, will absorb the sum of £18,916., the proportions allotted to the respective shares being in accordance with Article 96 of the articles of association. It is further proposed to write the sum of £5,000. off the property account, reducing this in value to £90,000., to place the sum of £2,500. to a reserve account, and to carry forward the balance of £355. During the year improvements have been made to the factory by sundry additions, at the cost of about £800; but this has been charged to revenue account, and the directors are pleased to say that the state of the factory is one of high efficiency. The retiring directors are Mr. Reginald Ryley and Mr. Sidney Whitman, and both being eligible, they offer themselves for re-election.

Petroleum in New Zealand.—A petroleum well, 2,000 feet deep, has been sunk in the Taranake district, near Wellington, N.Z., containing apparently 8 feet of pure oil.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

THE MADRID EXHIBITION.

(To the Editor of the Chemical Trade Journal.)

Sir,—In case you think it convenient to mention the matter in your valuable journal, I beg to call your attention to the International Exhibition which will be held in Madrid, Spain, from April 10th to July 10th, 1898, in connection with the International Congress of Hygiene and Demography, and under the patronage of their Majesties the King and Queen-Regent of Spain. The exhibition will be divided into ten sections:—(1) Didactic hygiene; (2) Prophylaxis of transmissible diseases; (3) Urban hygiene; (4) Hygiene in relation to dwelling-houses; (5) Ditto in what refers to exercise and work; (6) Naval and military hygiene; (7) Hygiene of infancy and schools; (8) Food and dressing; (9) Demography and statistics; (10) Miscellaneous.

Exhibitors will enjoy the following privileges:—No charge for spaces occupied at the exhibition; the goods will be imported into Spain free of Customs duties; the railways of Spain will make a reduction of 50 per cent from their tariff for carriage.

Travellers attending the Congress will enjoy these advantages:—The Spanish Railway will reduce the price of the tickets by 50 per cent. The Compania Transatlantica Espanola (Steamship Company) also make 50 per cent. reduction on their return tickets to Spain. They are entitled to attend the excursions, receptions, and amusements which will be given in connection with the said Congress. Among the proposed receptions there is one at the Royal Palace, Madrid, one of the President of the Council of Ministers, and one at the Palace of the Municipality of Madrid.

This Chamber will be pleased to give any information required in connection with the said exhibition and Congress.—I am, etc.,

Don A. M. R. Jurado, Secretary General.

Spanish Chamber of Commerce,
23, Billiter-street, London, E.C.

DISCREPANCIES IN SUMAC ANALYSIS.

(To the Editor of the Chemical Trade Journal.)

Sir,—In your issue of the 5th inst., you give an account of Mr. J. T. Wood's paper under the above heading, as read before the Nottingham Section of the Society of Chemical Industry, in which it is shown that there is no concordance between the Hide Powder method and that of Lowenthal. It is to be hoped that Mr. Wood does not claim this as his discovery, as I fancy all chemists who are in the habit of making these determinations know that there is absolutely no connection whatever between the results yielded by the two processes. In fact, the whole subject requires thorough revision and examination, as it is impossible to guess what is meant when a substance is said to contain a certain percentage of tannin. Moreover, the greatest differences are often obtained by chemists using the same method. Some of our professors might give *cheap* organic research a rest, and try their hands in this particular field.—Yours, etc.,

March 7, 1898. J. Arthur Wilson.

Cheshire Salt Trade.—The Cheshire salt returns for February, issued recently, show a great revival. The export and coastwise trade, amounted to over 43,000 tons, or 17,000 tons in excess of February, 1897. Of this increase, Asia alone took an additional 15,000 tons. Runcorn and the Manchester Ship Canal shipped 1,700 tons more, the total being 5,200, of which more than half was coastwise.

The Resin Market.—The market for all grades has varied very slightly in America. Low grades have become rather firmer, and sellers of "pales" are not pushing for orders at current low figures. Owing to the reduction of fully 35 per cent. in the virgin crop last year, making that much less old boxes for this year, it is improbable that there will be as much medium produced in 1898. Many of the producers have abandoned their old farms in Georgia and gone to Florida, and this will have an influence on the crop of low and medium grades. Receipts of common in Wilmington have fallen off over 30,000 barrels, or 22 per cent. less than last year's receipts. Stock in Savannah will probably be 90,000 barrels less than last year by April 1st. The trade has been generally very quiet in London, but two cargoes having arrived mostly sold, the market there also has become firmer for "spot." As no other shipments are on the way, and as there can be no more arrivals for about two months, an advance of all grades seems not improbable. The Liverpool market for "pales" has advanced, and low grades are firmer on the spot. There is nothing afloat to Liverpool either. A considerable business has been done in "pales" for forward shipment at very low prices.

Trade Notes.

New Ironworks in the North.—Business in the Scottish malleable-iron trade is very brisk. No less than four new ironworks have been announced within the last few days. At Mount Vernon, near Glasgow, a beginning was made by a newly equipped foundry about the middle of last month; a syndicate has acquired a twelve-acre site for a second at Whifflet; a new bridge-building company is about to be "floated" in Motherwell; and a branch extension of a Glasgow business has been arranged for near Clydebank. Besides these, the well-known Saracen Foundry is extending its already spacious premises.

Society of Chemical Industry.—*Liverpool Section.*—The dinner and smoking concert arranged for Wednesday, March 9th, was postponed owing to the death of Dr. Ferdinand Hurter.

Society of Chemical Industry.—*London Section.*—In order to meet the convenience of the lecturer, the meeting will be held in the Chemical Society's Rooms, Burlington House, on Monday, March 14th, 1898, at 8 p.m., instead of Monday, March 7th. The following paper will be read: "Electrical Industries at the Foyers Waterfalls," by R. W. Wallace, Esq., Q.C.

Webb v. Kynoch.—The hearing of this action was commenced on Thursday, at Dublin, in the Court of the Master of the Rolls, in which Mr. T. G. Webb, of Manchester, sought an injunction against Messrs. Kynoch & Co., Limited, of Birmingham, to restrain this firm from using a certain acid concentrating plant at their Arklow Cordite Works, it being alleged that the plant was an infringement of the plaintiff's patent. The hearing of the case was proceeding at the time of our going to press.

Next Please!—With reference to the attempt of the American Standard Oil Trust to obtain control of the Netherlands-Indian petroleum Industry, the Amsterdam Directors of the Moeara Enim Company have addressed a circular to the shareholders explaining the position of affairs. It appears that the report that the provisional arrangement had to be abandoned in consequence of the intervention of the Dutch colonial authorities, who refused to sanction the practical transfer of the Dutch Company's concession to the American Trust, was correct. Meanwhile the Dutch Royal Petroleum Company has delared its willingness to enter into negotiations with the Moeara Enim Company. During the past week the desirableness of an amalgamation of all the Sumatra petroleum companies has been urged in several quarters as the only means of permanently resisting the monopolising tendencies of the American Trust. [It is pretty evident that with the Dutch no Rockefellers need apply. They have learnt the lesson.—Ed. *C.T.J.*]

Obituary.—It is with sincere regret that we have to announce the sudden death of Dr Ferdinand Hurter on Saturday afternoon last. Dr. Hurter was born at Schaffhausen on March 15th, 1844 He was there educated, until he was 16 years of age, at the State schools and at the Gymnasium. He then went to Winterthur, where he was apprenticed to a dyer for three years. Meanwhile, his great natural ability indicated that he should further pursue his education, and devote himself to the higher branches. To this end he went to the Zurich Polytechnic, where he studied for two years under Städeler. From Zurich he went to Heidelberg, where he pursued his studies under Bunsen and Kirchhoff, and where he took his degree of Ph.D. in 1866. In 1867 he came to England, and, on the recommendation of Sir Henry Roscoe, very shortly entered the service, as chemist, of Messrs. Gaskell, Deacon, and Co., alkali manufacturers, Widnes. His great ability and capacity were soon recognised by this firm, whose complete confidence he enjoyed, and he remained in their service till the amalgamation of the Alkali Works took place in 1890, when he was appointed head chemist to the United Alkali Co., Ltd. To this company, in whose service he remained till his death, his loss will be keenly felt. While in the service of Messrs. Gaskell, Deacon, and Co., Dr. Hurter was closely associated with the late Mr. Henry Deacon in the practical working out of the well-known Deacon process for the manufacture of bleaching powder. During his connection with the alkali trade he has from time to time produced papers of the greatest value and interest to those engaged in the business. He has occupied the position of President of the Liverpool Section of the Society of Chemical Industry and of the Liverpool Physical Society. Scientific pursuits were so thoroughly congenial to Dr. Hurter, that he adopted them as a recreation. In this way he took up, in 1876, the study of photography, in conjunction with Mr. V. C Driffield, and from time to time papers were published in their joint names. In January last their earlier work received recognition from the Royal Photographic Society, when they were awarded the progress medal. Dr. Hurter had been in anything but robust health for the last year or two, and his condition gave considerable anxiety to his friends. His medical advisers, however, failed to detect anything seriously wrong, till his sudden death on Saturday last from an aneurism revealed the actual state of things. He leaves a widow and five children to mourn his loss, which will also be keenly felt by a wide circle of friends.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are dull and without change in prices. Carbolic acids remain firm at nominal values, namely 2s. 1d. for 60% crude and 7½d. for 40% crystals. Naphthas are unchanged in price, with a rather better demand for solvent. Creosote keeps firm. Anthracene quiet. Pitch is somewhat livelier, with prices ranging from 18s. 6d. to 19s 6d., f.o.b. East Coast.

A fair business in ammonium sulphate is reported during the week, but it must have been on the part of middle sellers, for most makers are firmly holding for figures much in advance of current spot values, which are given to-day as being £9. 7s. 6d. for London outside makes, Liverpool £9. 8s 9d, Hull £9. 5s. to £9. 6s. 3d., and Leith £9. 5s. to £9. 7s. 6d. For forward, Beckton is now once more offering over April June at £9. 10s. Nitrate of soda is steadier.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is a better export demand for caustic soda, and prices have a higher tendency. Trade in ammonia alkali, however, for export shows no improvement in bulk. Price of the latter for home trade is maintained by the combined manufacturers at £4. f.o.r. in bags. Soda crystals and bicarbonate are unchanged. Spot quotations for caustic soda f.o.b. Liverpool are as follows:—77%, £8. 5s.; 74%, £8; 70%, £7. 7s. 6d.; 60%, £6. 7s. 6d. per ton. Bleaching powder is in fairly active request, both for home and export, and there are no changes in price to record. In chlorates considerable business is reported, but there is no improvement in value, quotations being 3⅞d. and 3⅛d. per lb. respectively for soda and potash. Sulphur is in fair demand at £4. 10. to £4. 12. 6d f.o.r For saltcake there is more inquiry and price is steady at 18s to 19s f.o.r. Sulphate of copper is quiet, and current quotations stand at £16. 10s., f.o.b. Liverpool, for prompt delivery. Potash, caustic and carbonate, continues steady in price. Yellow prussiate dearer at 6¼d. per lb Prussiate of soda, 5d. to 5¼d. per lb. Cyanide, 1s. to 1s. 1d. per lb. For brown acetate of lime demand is slow at £5 12s. 6d. to £5. 17s. 6d., c.i.f.; grey, £7. 15s. per ton. White sugar of lead quiet but firm at recent advance in price. Brown sugar of lead scarce and dear. Acetate of soda, £12. to £12. 5s, f.o.r. Bichromates rather easier, and oxalic acid is also offered at slightly lower prices for forward delivery. Aniline oil and salt have a lower tendency. Carbolic crystals steady at 7¼d. per lb. for 39/40°. Crude firm. Liquid carbolic and cressylic acid, 1s. per gall. For green copperas there is good general demand, and price is well maintained. Zinc salts rather dearer. In white powdered arsenic business, at present, is dull and with only light inquiry; quotations rule from £20. 5s. to £20. 10s., f.o.r. Nitrate of soda, 7s. 6d. per cwt. There is, meantime, no indication of any improved demand for chemicals in the manufacturing districts.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 46s. 3d.; Middlesbro', 40s. 6d. cash; and hematite, 49s. 3½d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 6s. 3d. to £50. 11s 3d. cash, and £50. 12s. 6d. to £50. 17s. 6d. three months. Tin steadier: Straits closed at £65. 3s. 9d. to £65. 13s. 9d. cash, and £65 15s. to £66. 5s. three months; Australian, £66.; English ingots, £67. 15s. Lead firm: Spanish, £12. 12s. 6d.; English, £12. 15s. Silesian spelter, ordinary, £18 7s. 6d. Nickel, 1s. 2½d. Antimony, £31 10s. Quicksilver: First hands, £7. 2s. 6d.; second hands, £7. 2s *Copper shares* steady: Cape, 4½ to 4⅝; Copiapo, 2⅜ to 2½; Libiola, 2½ to 2¾; Mason and Barry, 3½ to 3¾; Rio Tinto, 28 to 28¼; Tharsis, 7 to 7¼.

GLASGOW, Wednesday.—Market firmer, with a moderate business. Scotch done at 46s. 3d., 46s. 4½d. and 46s. 3½d. cash; also at 46s 6d., 46s. 7d., and 46s. 6d. month; buyers, 46s. 3d. cash; sellers, ½d. more. Cleveland, buyers, 40s. 6d. cash; sellers, 40s. 7d. Cumberland hematite done at 49s. 4d. cash, and 49s. 7½d. month; buyers, 49s. 3½d. cash; sellers, 49s. 4d. Middlesbrough hematite, buyers, 51s. month; sellers, 51s 6d.

REPORT ON MANURE MATERIAL.

There is no new feature in the market upon which to comment. Less favourable weather has somewhat checked the activity of manure manufacturers, but the prospects of a large manure trade are very promising.

There is extensive inquiry for high grade mineral phosphates for the Continent and the Baltic, but raisers think the situation justified a waiting policy pending the fulfilment of a substantial part of their existing contracts. There is less anxiety on the part of buyers in regard to the lower grades of rock, but prices are well maintained, and for prompt shipment some advance is asked.

There is fair demand for bone meal, and £4. 5s. per ton remains the quotation for fair average quality Bombay.

Nitrate of soda is a shade firmer on spot, 7s. 6d. per cwt. having been freely paid for fine quality, and 7s. 7½d. per cwt. being now asked at the close Deliveries continue on a satisfactory scale.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

There is scarcely anything fresh to report about palm oil. The market keeps firm, but otherwise is featureless. Olive is quietly steady at full prices. Linseed is quiet, with sellers of Liverpool makes at 17s. 3d. to 17s. 6d. per cwt., in export casks. Cottonseed is firmly held for 15s. 3d. to 15s. 9d. per cwt. for Liverpool refined. The demand for castor oil is but moderate, and that chiefly for spot, but holders remain firm at 3$\frac{5}{16}$d. per lb., both for Calcutta and French makes. Tallow is decidedly firm, and prices show an advance of 3d. to 6d. per cwt. for beef—mutton unchanged so far. Resin keeps steady without change in price. Spirits of turpentine are moving moderately on spot, sellers firmly holding for 26s. per cwt. Petroleum steadier, with American 5¼d. to 6½d. and Russian refined 4⅞d. per gallon.

CAKES.—The market for American Western linseed on the spot rules firm in tone, and in the good business passing the quotation of £6. 7s. 6d. to £6. 12s 6d. is well maintained, whilst Liverpool makes are the turn in buyers' favour at £8. 2s. 6d. to £8. 10s. per ton. American decorticated cottonseed meet with a fair inquiry from consumers at £5 10s to £6., and holders are firm thereat. Liverpool makes continue in moderate request at £5. 5s. to £6 10s per ton. Liverpool undecorticated makes are easier on the spot, with sellers at £3. 17s. 6d. to £4. 12s. 6d., according to brand, but holders experience a very fair consumptive inquiry. Egyptian on the spot remain firm in tone, with a steady business doing at £3. 18s. 9d per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY

OILS.—The market during the week has been well maintained until just at the time of writing, when both linseed and cottonseed oils are easier. The stocks of seed at this port month ending February are:—Linseed 11,516 qrs. against 24,518 qrs; month ending January: Rapeseed 7,380 qrs. against 11,326 qrs; cottonseed 2,302 tons against 1,197 tons. The imports for the month are: Linseed 10,137 qrs. against 30,448 qrs. previous month; rapeseed 5,813 qrs. against 4,266 qrs.; cottonseed 32,713 tons against 34,040 tons. Linseed oil closes dull at 15s 1½d.; spot naked March-April 15s. 3d; May-August 15s. 3d. to 15s 4½d. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil also closes easier, 13s. 1½d.; spot-naked March-April 13s. 4½d.; May-August 13s. 9d. per cwt. Filtered refined about £1. to £1. 5s. per ton extra. Casks £1. and ordinary barrels £1. 10s. per ton extra. Castor oil promises to be firmer until the end of the month, when it promises to be easier, and quoted from 3½d. per lb. for city make. Spirits of turpentine firm at 25s. 3d. to 25s. 6d. Resin on the spot quoted from 4s. 9d. per cwt. Oleines have had a sharp advance of £1. per ton, being quoted from £17. to £20. per ton. Olive oil—the situation unchanged. Olive oil soups move off freely, prices unaltered. Yorkshire grease £7. to £9. per ton. Cod oils £15 10s. to £18. per ton. Arachide nut oil £27. to £30. per ton.

CAKES.—A fair market for these articles, with prices holding firm. Linseed cakes steady: 95% pure, £8. 7s. 6d. to £8. 10s. per ton. Oil cakes (linseed), £7. to £7. 2s. 6d.; Russians, £7. 7s. 6d. to £7. 12s. 6d. Cotton cakes, firm: best makes, £4. to £4. 13s.; seconds, £3. 17s. 6d to £3. 18s 9d.; decorticated cakes, £5. 2s. 6d. to £5. 15s; meal, £5. 10s. Rape cakes: Black Sea, £4 5s. per ton.

PAINTS.—The situation is unchanged. White and red leads continue to hold very firm positions. Dry mineral colours from £3. to £8. per ton. Ordinary colours in oil from £9. Ready mixed paints £24., in tins. Disinfecting powder: 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. per ton. Black varnish, £5. per ton, barrels free.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The case of sulphate of ammonia has not improved during the week but rather the reverse, although makers cannot yet be said to have altogether surrendered to the downward influences. Prompt Leith value on the market to-day is hardly more than £9. 10s., for there are middle sellers at that; although it is asserted on the side of the makers, that not one of them has as yet done business at that figure. There is very little doing, for the buying section seems convinced that prices are bound to be forced lower still, and in that belief it holds off as much as it can. There is, of course, no business at present on the forward basis. Nitrate of soda also is cheaper. In the other divisions of the market, there is very little of change to note. Sulphate of copper is more inclined to the firm side, but chlorates are rather flat. Business in the common chemicals continues quietly steady, at prices for the most part untouched. There are no changes of any kind in the mineral oil and paraffin department.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 5s, 60/62° £6. 5s., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 18s.; borax, English, refined, £14. 10s., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3⅜d. less 5%, Liverpool; nitrate of soda, 7s. 4½d. to 7s. 7½d.; sulphate of ammonia, £9. 10s. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33 nett, any port; sulphate of copper, £1. 10s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 13,527 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

The chemical market is unaltered and the demand generally is still very limited. Bleaching powder is about £5. 15s. per ton. Caustic, 70% £7. 10s, and 76/77%, £8. 15s. and £9 per ton. Sulphur scarce at £4. 15s. to £5 per ton. Soda crystals in good demand at £2. 12s. 6d. per ton, gross weight.

Bleaching powder, softs, £5 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 15s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 3d. per ton, f.o.b. Tees.

COALS.—The coal trade is rather steadier, there being a better demand for forward delivery. Coke is in excellent consumption locally, and shipments abroad are fully up to the average Best Northumbrian steam, 8s. to 8s. 3d. per ton; second qualities 7s. to 7s. 3d. per ton; small steam, 3s. 3d. to 3s. 6d per ton; gas coals, 7s. 6d. to 7s. 9d. per ton; household coals, 10s. to 11s.; coke, 16s. to 21s. per ton.

New Companies.

William Ward & Sons, Ltd.—CAPITAL £16,000. in £10. shares (600 pref). This company has been formed to acquire the business carried on by J. H. Holroyd at Clark Lane, Leeds, to adopt a certain agreement, and to carry on the business of brick, tile, and pipe makers, and manufacturers of artificial stone. The subscribers to the memorandum of association are:—H. Holroyd, Stonefall Grange, Knaresbro', Yorks, brick maker; Mrs. J. E. Holroyd, Highbury, Clarence Drive, Harrogate; Miss M. Holroyd, Highbury, Clarence Drive, Harrogate; Miss N. Holroyd, Highbury, Clarence Drive, Harrogate; J. Holroyd,

Fairfield, Harrogate, potter; R. B. Hopkins, Morley House, Morley, Leeds, solicitor. Registered office, Clark Lane, Leeds.

Guard Bridge Paper Co., Ltd.—Capital £240,000. in £5 shares. This company has been formed to take over the business of the Guard Bridge Paper Co., Ltd., now in liquidation, to carry on and develop the same. The subscribers to the memorandum of association are:—H. Haig, Ramornie, Fife, landed proprietor; J. Galloway, Seggie, Fife, landed proprietor; J. Anderson, Leven, Fife, engineer; F. Wallace, Leven, Fife, banker; A. Hutchinson, Kirkcaldy, maltster; J. Hodge, Guard Bridge, Fife, cashier; J. Wenshall, 50, Constitution St., Leith, merchant. Registered office, Guard Bridge, Cupar, Fife.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending February 26th.

Acetic Acid—
Holland, 17 pks. R. W. Greeff & Co.
Sweden, 14 M. D. Co.

Alkali—
Belgium, 2,000 c. Darling Brs.
France, 40 J. Barber & Co.
" 203 P. Hecker & Co.

Arsenic—
Portugal, £250 Coverley & Westray

Asbestos—
Germany, £18 Craven & Co.

Barium Chloride—
Germany, £123 Petri Brs.

Barytes—
France, 69 pks. W. Harrison & Co.
Holland, 24 O'Hara & Hoar
Germany, 57 W. Harrison & Co.
Belgium, 126 J. L. Lyon & Co
Holland, 63 "

Bleaching Powder—
Germany, £390 J. M. Steel & Co.

Bromine—
Germany, 40 pks. A. & M. Zimmermann

Camphor—
Germany, 1 pk. Butler's Wf., Ld.

Caoutchouc—
Straits, 439 c. L. & I. D. Jt. Co.
" 180 Huttenbach & Co.
Germany, 6 Wallace Brs.
" 10 Hale & Son
Zanzibar, 52 L. & I. D. Jt. Co.
Niger Prot't, 17 "
Straits, 25 Elkan & Co.
France, 80 H. Johnson & Sons
Germany, 41 A. C. Lloyd
Straits, 46 W. Pope & Co.
Thursday I., 29 McIlwraith, McEacharn & Co.
Germany, 200 F. Huth & Co.
Sydney, 36 A. Hardrodt

Castor Oil—
Italy, 50 cs. H. F. Love & Co.
France, 11 brls. J. Greig
" 27 Kumpf & Etkenstein
" 106 J. W. Cook & Co., Ld.

Caustic Potash—
France, £105 Petri Brs.
" 53 W. E. Cole
" 40 J. A. Reid
Germany, 22 J. M. Steel & Co.
Belgium, 60 c. A. J. Luke & Co.

Chemicals (*otherwise undescribed*)
Germany, £915 A. & M. Zimmermann
" 35 L. & I. D. Jt. Co.
Holland, 79 T. H. Lee
Italy, 165 J. Knill & Co.
France, 14 Mory & Co.
Belgium, 145 T. Palmer
" 10 Leach & Co.
" 55 John Cockerill Line
U. States, 738 H. Harkness
Holland, 40 Phillipps & Graves
" 40 A. C. Lloyd
Belgium, 25 T. H. Lee
Holland, 15 Petri Brs.
" 10 A. G. Robinson & Co.
" 5 H. Johnson & Sons
Germany, 27 F. Boehm
" 52 Phillipps & Graves

Citrate of Lime—
Italy, £1,461 B. Jacob & Sons
" 22 cks. Thames S. T. & L. Co., Ld.

Cream of Tartar—
France, 4 pks. Blackmore, Leconte & Co.
Holland, 9 Kirkpatrick, Barr, & Co.
France, 12 F. C. Devon & Co.
" 19 W. C. Bacon & Co.
Italy 20 B. Jacob & Sons

Dyestuffs—
Argols
Italy, 163 pks. Thames S. T. & L. Co., Ld.
" 2,017 B. Jacob & Sons
Cochineal
Canaries, 30 pks. W. M. Smith & Sons
" 10 Kuhner, Henderson & Co
" 13 Hendrey & Martin
Cutch
Rangoon, 40 pks. A. Howden & Co.
" 700 Phillipps & Graves
" 50 Brown & Elmslie
Extracts
U. States, 100 pks. L. & I. D. Jt. Co.
" 55 W. Burton & Sons
" 30 W. C. Barnes & Co.
" 100 Skilbeck Brs.
Gambier
Straits, 247 pks. Huttenbach & Co.
" 522 Prop. Hay's Wf.
" 457 Beresford & Co.
" 363 Brown & Elmslie
" 49 W. France & Co., Ld.
" 506 Union Ltge. Co., Ld.
" 259 J. W. Cook & Co.
Indigo
E. Indies, 44 chts. P. & O. Co.
" 69 Parsons & Keith
" 52 P. Macfadyen & Co.
" 22 E. Bower & Co.
" 10 Ralli Brs.
" 7 F. Huth & Co.
" 184 442 pks. A. B. Curtis & Co.
" 59 J. Kenyon & Sons
" 11 H. Johnson & Sons
" 113 L. & I. D. Jt. Co.
" 28 Ogilvy, Gillanders & Co.
" 26 Kilburn, Brown & Co.
" 9 Elkan & Co.
" 14 A. Young & Co
" 84 J. H. Hall & Wilson
Logwood
B. Hond'as, 180 t. J. E. Scott
" 112 A. Everingham & Co.
Madder
Holland, 1 pk. Phillipps & Graves
Myrabolams
E. Indies, 6,830 pks. W. Shelcott
Orchella
E. Indies, 43 pks. Hoare, Wilson & Co.
Saffron
Spain, 1 pk. Nich's Wvs., Ld.
Shumac
Italy, 100 pks. A. Laming & Co.
Tanners' Bark
Cape, 72 t. Flack, Chandler & Co.
N. Zealand, 3 Von der Meden & Co.
Adelaide, 60 H. Devitt & Co.
Belgium, 16 J. Harrison
Valonia
A. Turkey, 102 t. Anning & Cobb

Dyestuffs (*otherwise undescribed*)
Austria, 3 pks. Bellamy's Wf. Ld.

Farina—
Holland, 50 pks. J. Barber & Co.
Belgium, 100 "
Holland, 100 J. Knill & Co.
U. States, 50 A. F. White & Co.

Glucose—
U. States, 10 pks 61 c. L. & T. Ltge. Co.
" 50 307 A. E. Piggott
" 200 1,150 Soundy & Sons
" 2,110 2,631 L. & I. D. Jt. Co.
" 1,000 1,000 G. Clark & Sons
" 4,500 4,502 Pearce, Pelly & Co.
" 250 250 Thames S. Tug & L. Co.
" 120 320 L. Norman & Co.
" 1,550 1,800 Robinson Son & Co.
" 203 1,200 Deering & Robottom
U. States, 300 400 Page, Son & East
" 200 1,200 Halt & Co.
" 150 900 E. & T. Pink
" 50 300 T. J. Lipton
" 50 287 W. Grose & Co
" 250 230 C. S. Lovell
" 1,000 1,000 Hall & Co.
" 13,950 70,500 R. G. Hall & Co.
" 4,000 4,000 E. Thompson & Co.
" 665 1,407 Ohlenschlager Brs.
" 500 500 Fellows, Morton, & Co.
" 41 92 Johnke & Foelsch

Glue—
U. States, £86 Armour & Co.
France, 26 Mory & Co.
Holland, 27 J. Barber & Co.
Germany, 30 Craven & Co
Belgium, 835 J. Barber & Co.
Holland, 73 Hermann Keller & Co.
Australia, 186 T. J. & T. Powell
Holland, 26 Phillipps & Graves
France, 12 Bennett S. S. Co.
Germany, 145 Steinhoff, Sons & Co.
" 28 Butler's Wf., Ld.
" 220 L. & I. D. Jt. Co.

Lead Acetate—
Germany, £107 Beresford & Co.

Methyl Alcohol—
France, 20 cks. E. J. Catlin

Mica—
Madras, £25 H. D. Boret
U. States, 967 W. Balchin
Calcutta, 182 W. M. Smith & Sons

Molasses—
U. States 200 brls. Seaward Brs., Ltd.
" 25 1,220 c. Robinson, Son, & Co
Egypt, 300 1,480 Falkenberg & Hesse
" 100 560 Pickford & Co.
" 200 1,093 Ohlenschlager Brs.
U. States, 25 150 L. & I. D. Jt. Co.
Egypt, 100 600 "
" 100 600 J. Travers & Sons
" 200 1,000 Prop. Cooperage Wf.

Naphtha—
Germany, 10 brls. Elkan & Co.

Ochre—
France, 180 pks. W. Harrison & Co.
Holland, 11 Phillipps & Graves

Oxalic Acid—
Holland, 10 pks. R. W. Greeff & Co.

Oxide of Magnesia—
Belgium, 280 c. A. J. Luke & Co.

Phosphate of Lime—
France, 355 t. A. Hunter & Co.
" 165 Anglo-Contl. Guano Works
Algeria, 600 Odams Manure & Chemical Co.

Phosphate Rock—
Algeria, 1,500 t. Anglo-Contl. Guano Works
Belgium, 195 D. de Pass & Co.
" 100 J. Gibbs & Co.

Pitch—
Belgium 9 brls. Poth, Hille, & Co.
N. Russia, 100 Fellows, Morton, & Co.

Plumbago—
Germany, 17 cks. Butler's Wf., Ltd.
Ceylon 186 brls. 83 cks. J. Thredder, Son, & Co.
" 231 bgs. "
U. States, 100 cks. Lunham & Moore

Potassium Carbonate—
Germany, 100 c. M. D. Co.
France, 100 W. E. Cole
" 9 Petri Brs.
Holland, 100 "
Germany, 50 "

Potassium Chlorate—
Belgium, £46 J. W. Drysdale & Co.

Potassium Oxymuriate—
Sweden, £326 G. Boor & Co.

Potassium Sulphate—
Germany, 508 pks. Anglo-Contl. Guano Works

Pumice Stone—
Messina, 20 t. Davies & Sons
" 2 E. Frelingham
Italy, 6 O'Hara & Hoar
" 2 J. Barton-Faithful

Pyrites—
Spain, 3,193 t. C. Tennant, Sons, & Co.

Quicksilver—
N. Russia, 250 btls. L. & I. D. Jt. Co.

Rosin—
U. States, 250 brls. Phillipps & Graves
France, 13 C. W. Schmidt
Germany, 34 cks. Lucas & Spencer's Wf.

Saltpetre—
Germany, 4 cks. T. H. Lee
" 12 brls. L. & I. D. Jt. Co.

Sodium Acetate—
France, £119 J. Harrison

Sodium Carbonate—
Germany, 5 c. Butler's Wf., Ltd.

Sodium Prussiate—
Belgium, 40 cks. Blagden, Waugh, & Co.

Starch—
Holland, 65 pks. Phillipps & Graves
Belgium, 150 Leach & Co.
" 50 Taylor Brs.
Germany, 2,182 Horne & Co.
Holland, 3,344 Little & Johnston
France, 780 Prprs. Dowgate Dk.
Belgium, 353 T. H. Lee
" 586 F. Claydon & Co.
" 124 J. Harrison
France, 40 J. Barber & Co.
U. States, 60 Beck & Pollitzer

Stearine—
Holland, 19 cks. Robinson, Roberts, & Co.
Belgium, 9 H. Hill & Sons
France, 635 cs. Beresford & Co.
Belgium, 63 bgs. W. H. Mitchell

Sulphur—
Italy, 21 t. G. Boor & Co.
" 5 Hyslop & Symonds

Tartaric Acid—
Holland, 26 pks. B. & F. Wf. Co.
" 14 Kirkpatrick, Barr, & Co.

Ultramarine—
Belgium, 3 pks. W. Harrison & Co.
" 20 H. Kohnstamm
Holland, 7 J. Barber & Co.
" 15 Henriu, Peron, & Co.
France, 3 W. Harrison & Co.
Germany, 10 Steinhoff, Sons, & Co.

Varnish—
Germany, 4 pks. Phillipps & Graves
U. States. 16 Taylor Brs.
Germany, 9 L. & I. D. Jt. Co.
" 30 Butler's Wf., Ltd
Belgium, 5 J. Harrison

Vermilion—
Germany, 1 pk. H. Keller & Co.

Waste Salt—
Germany, 200 t. F. W. Berk & Co., Ld.

White Lead—
Holland, 20 pks. Perkins & Homer
Belgium, 50 T. & W. Farmiloe, Ld.
Queensland, 80 Colthurst & Harding
Holland, 21 G. Farmiloe & Sons, Ld.
Germany, 71 F. G. Clifford
Belgium, 12 T. H. Lee
" 17 Leach & Co.

Germany, 91 J. Matton
" 29 H. B. Alder & Co.
" 23 W. A. Rose & Co.
Norway, 40 Soundy & Sons
" 98 T. & W. Farmiloe, Ld.

Wood Pulp—
Norway, 120 pks. Johnsen & Jorgensen
Denmark, 160 "
Portugal, 600 E. J. & W. Goldsmith
Belgium, 100 Leach & Co.
Sweden, 400 Alsing & Co., Ld
Portugal 500 Caima Wood Pulp Co
" 250 Page, Son, & East
Sweden, 6 W. D. Cork
Norway, 10 "
Sweden, 173 M. D. Co.
Norway, 200 Tough & Henderson
Canada, 132 W. G. Taylor & Co.

Zinc Chloride—
Holland, £54 Phillipps & Graves

Zinc Oxide—
Germany, 500 pks Soundy & Sons
Holland, 55 M. Ashby, Ltd.
" 78 Burrell & Co.
" 4 J. Owen
U. States, 399 W. C. Faber

LIVERPOOL.

Week ending February 24th.

Barytes—
Antwerp, 34 cks.

Bone Ash—
Zarate, 256 bgs. J. Nelson & Sons, Ld.

Caoutchouc—
Havre, 16 cs. Cunard S. S. Co., Ltd.

Chemicals *(otherwise undescribed)*
Hamburg, 16 cs.

Colours—
Rotterdam, 5 cks 7 cs. 7 pks.

Cottonseed Oil—
New York, 375 brls.
Savannah, 2,353

Cream of Tartar—
Barcelona, 25 cks. 20 brls 5 bts.
" 2 F. & L Sitzler
Bordeaux, 10
Tarragona, 1 ppe.
" 5 cks. Sachse & Klemm

Dyestuffs—
Annatto
Bordeaux, 8 cks. R. J. Francis & Co.
Cutch
Rangoon, 570 bxs.
Indigo
Calcutta, 292 chts. 11 bxs.
Logwood
Antwerp, 2 cks.
Orchella
Colon, 35 bls. J. Beansire & Co.
Saffron
Valencia, 1 cs.
Barcelona, 1
Shumac
Barcelona, 100 sks.
Valonia
Smyrna, 82 t. 10 c. Barry Brs
" 163 5 2,453 bgs.
Syra, 1,128

Farina—
Rotterdam, 50 bgs.

Glucose—
New York, 900 brls. T. M. Duche & Sons
" 220

Glue—
Rotterdam, 11 cs.
Hamburg, 40 bgs.
Antwerp, 29 bls.

Iron Oxide—
Gijon, 577 bgs.

Manganese Ore—
Visagapatam, 950 t. Darwen & Mostyn Iron Co.

Manure—
Boston, 4 brls.

Mineral White—
Bordeaux, 80 bgs. R. J. Francis & Co.

Molasses—
Alexandria, 2,000 brls.

Ochre—
Alicante, 60 brls.

Paint—
Boston, 15 cs. H. Tear
" 30

Chemicals *(otherwise undescribed)*
Rotterdam, 10 cks.

Colours—
Antwerp, 3 pks J. T. Fletcher & Co.
" 30
Boulogne, 4 cks. 2 cs.
Rotterdam, 42 brls. 10 bxs.

Cream of Tartar—
Rotterdam, 25 cks.

Dextrine—
Hamburg, 95 bgs.

Extracts—
Halifax, 250 brls.

Farina—
Hamburg, 100 bgs.

Glucose—
Newport News, 200 brls.

Glue—
Hamburg, 60 bgs.
Rotterdam, 190 10 cs.

Indigo—
Rotterdam, 2 brls.

Limestone—
Antwerp, 8 crts.

Litharge—
Rotterdam, 20 cks.

Lithopone—
Hamburg, 20 cks.

Oxalic Acid—
Antwerp, 15 cks.
Rotterdam, 15

Potash—
Rotterdam, 18 cks

Salt—
Rotterdam, 2 brls.

Soda Oxide—
Hamburg, 2 cs.

Starch—
Newport News, 2,500 bgs.
Rotterdam, 135 cs.
Hamburg, 238
Antwerp, 160 J. T. Fletcher & Co.
" 445

Stearine—
Rotterdam, 14 bls.

Tannic Acid—
Hamburg, 5 cs.

Tartaric Acid—
Rotterdam, 22 cks. 5 cs.

Ultramarine—
Rotterdam, 5 cs.

Waste Salt—
Hamburg, 100 bgs.

White Lead—
Rotterdam, 14 cks.

Wood Pulp—
Christiania, 2,705 bls. W. H. Ingram

Zinc Oxide—
Antwerp, 60 brls.

HULL.

Week ending February 26th.

Alumina Sulphate—
Rotterdam, 210 bgs. W. & C. L. Ringrose

Arsenic—
Hamburg, 115 kgs. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 182 cks. Bailey & Leetham, Ld.

Benzol—
Rotterdam, 1 bkt. Hutchinson & Son

Camphor—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
5 bkts.

Caoutchouc—
Antwerp, 1 ck. Wilson, Sons, & Co., Ld.

Chemicals *(otherwise undes.)—*
Stettin, 3 cks. Wilson, Sons, & Co., Ld.
Ghent, 30 brls. "
Antwerp, 45 dms. "

Cod Oil—
Aalesund, 10 brls. Wilson, Sons, & Co., Ld.
Bergen, 20 "

Colours—
Bremen 2 cks. J. Pyefinch & Co.
Bremen, 2 H. T. Greaves
" 2 pks. Veltmann & Co.
" 9 cks.
Antwerp, 1 cs. Blundell, Spence, & Co.
Rotterdam, 2 brls. Hutchinson & Son
" 1 ck. Wilson, Sons, & Co., Ld.
" 27 brls. W. & C. L.
110 pks. Ringrose
Antwerp, 13 Wilson, Sons, & Co., Ld.
Dunkirk, 1 ck. "

Cream of Tartar—
Rotterdam, 2 cks. W. & C. L. Ringrose

Cryolite—
Copenhagen, 6 cks. Wilson, Sons, & Co., Ld.

Farina—
Harlingen, 450 bls. Hutchinson & Son
" 900 W. & C. L. Ringrose
Harlingen, 100 Wilson, Sons, & Co., Ld.
Stettin, 100 bgs. "

Glucose—
Stettin, 200 bgs. Wilson, Sons, & Co., Ld.
New York, 50 brls. "
" 100
Rotterdam, 40 bgs. W. & C. L. Ringrose

Glue—
Hamburg, 40 bgs. Wilson, Sons, & Co., Ld
Christiansund, 1 brl. "
Stettin, 2 cks. "
Christiania, 40 bgs. "
Bergen, 10 brls. "
Dunkirk, 10 cks. "
Hamburg, 90 bgs.

Magnesium Sulphate—
Hamburg, 10 bgs. Wilson, Sons, & Co., Ld.

Paint—
Gothenburg, 1 cs. Wilson, Sons, & Co., Ld.

Phosphate—
Ghent, 160 t. Wilson, Sons, & Co., Ld.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.

Potash—
Antwerp, 8 dms.
Dunkirk, 26 Wilson, Sons, & Co., Ld.

Saltpetre—
Hamburg, 12 bgs. Wilson,
10 kgs. Sons, & Co., Ld.

Soap—
New York, 165 brls. Wilson, Sons, & Co., Ld.
" 438 pks.

Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Ghent, 13 pks. Wilson, Sons, & Co., Ld.
Hamburg, 152 bgs.

Starch—
Antwerp, 40 cs. Wilson, Sons, & Co., Ld.
Bremen, 1,426 pks. Veltmann & Co.
1,102 cs.
Ghent, 210 Wilson, Sons, & Co., Ld.

Stearine—
Antwerp, 15 bgs. Wilson, Sons, & Co., Ld.

Tallow—
Dunkirk, 146 cks. Wilson, Sons, & Co., Ld.
New York, 130 brls. "

Tartaric Acid—
Rotterdam, 6 cks. W. & C. L. Ringrose

Treacle—
New York, 1,080 brls. Wilson, Sons, & Co., Ld.
" 100

Turpentine—
Libau, 53 brls. Helmsing & Son

Ultramarine—
Rotterdam, 20 cks. W. & C. L.
1 cs. Ringrose
Hamburg, 4

Paraffin Scale—
New York, 215 brls. Thompson & Bedford
Philadelphia, 100

Phosphate—
Ghent, 3,978 bgs.
Antwerp, 3,060

Potash—
Hamburg, 80 cks.

Pyrites—
Huelva, 3,620 t. Matheson & Co.

Saltpetre—
Calcutta, 292 bgs. Ralli Brs.
" 129

Soap—
Boston, 25 brls.
Philadelphia, 1,163 kgs.
Rotterdam, 1 cs.

Soapstone—
Bordeaux, 200 bgs. Geo. G. Blackwell, Sons & Co.

Sodium Prussiate—
Antwerp, 18 cks.

Sodium Silicate—
Rotterdam, 1 ck.
Philadelphia, 1 brl.

Starch—
Hamburg, 80 cs.
Antwerp, 426
Rotterdam, 14
Philadelphia, 424 bgs. Nat. Starch Manfg. Co.

Stearine—
Antwerp, 39 bgs.

Tallow—
Campana, 402 cks.
Zarate, 643 pps. J. Nelson & Sons, Ld.
New York, 250 hds.
Boston, 57 brls.
Philadelphia, 300 150 trcs.

Tartar—
Bordeaux, 3 cks. R J. Francis & Co.

Tartaric Acid—
Rotterdam, 3 cks. 20 kgs.
Messina, 12

Treacle—
Bordeaux, 10 cs.

Ultramarine—
Rotterdam, 20 kgs. 9 pks.

Varnish—
New York, 2 brls. Varity's, Ld.
" 1 W. A. Warren
Rotterdam, 2 cks.

White Lead—
Rotterdam, 39 cks. 155 bls.

Wood Pulp—
Boston, 1,555 rolls Thin & Sinclair
Portland, Me., 271 bls. E F. Callistor & Son
" 20

Zinc Ashes—
Philadelphia, 55 brls.

Zinc Oxide—
Antwerp, 60 brls.

Zinc White—
Hamburg, 40 cks.
Rotterdam, 84

MANCHESTER.

Week ending February 26th.

Alizarine—
Rotterdam, 59 cks. 50 brls.

Alkali—
Rotterdam, 6 cks.

Alumina Sulphate—
Ghent, 5 dms.

Aniline Colours—
Hamburg, 25 cks.

Aniline Salts—
Rotterdam, 4 cks.

Asbestos—
Rotterdam, 9 bgs.

Barytes—
Antwerp, 50 bgs. J T. Fletcher & Co.
Rotterdam, 100

Bone Ash—
Rio Grande Do Sul, 222 t. J. Gordon & Co.

Boracic Acid—
Hamburg, 6 cks.

Waste Salt—
Hamburg, 50 bgs. Lofthouse & Saltmer
" 500 Furley & Co.
White Lead—
Antwerp, 57 cks Bailey & Le tham, Ld.
Rotterdam, 10 Hutchinson & Son
" 49 W. & C. L. Ringrose
Whiting—
Hamburg, 180 cks. Blundell, Spence, & Co.
Wood Pulp—
Hango, 96 bls J. Good & Sons

GLASGOW.

Week ending March 3rd.

Acetic Acid—
Rotterdam 7 cks. J. Rankine & Son
Acids—
Amsterdam, 4 cks. J. Rankine & Son
Albumen—
Hamburg, 10 cks.
Arachide Oil—
Rotterdam, 5 cks. J Rankine & Son
Asbestos—
Genoa, 68 pks.
Barium Sulphate—
Antwerp, 200 bgs.
Barytes—
Rotterdam, 150 cks. J. Rankine & Son
Boracic Acid—
Leghorn, 15 cks.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 cs. J. Rankine & Son
Hamburg, 6 cks.
Colours—
Rotterdam, 11 cks. J. Rankine
34 pks. & Son
Cottonseed Oil—
New York, 33 bls.
Dyestuffs—
Alizarine
Rotterdam. 2 cks. J. Rankine
6 brls. 14 cs. & Son
Aniline
Rotterdam, 12 cks J. Rankine
5 bxs. 61 brls. 15 cs. & Son
Amsterdam, 1 ck. "
Hamburg, 1 cs.
Cutch
Rangoon, 300 bxs. P. Henderson & Co.
Shumac
Palermo, 750 bgs.
Farina—
Delfszyhl, 600 bgs. J. Rankine & Son
Glucose—
Philadelphia, 100 brls.
New York, 755
Glue—
Rouen, 70 cks. 18 bls.
Philadelphia, 450 bgs.
Naples, 370
Hamburg, 100
Magnesite—
Hamburg, 1 ck.
Mineral White—
Genoa, 83 bgs.
Ochre—
Rouen. 54 cks.
Oxalic Acid—
Rotterdam, 6 cks. J. Rankine & Son
Paint—
Hamburg, 21 dms.
Paraffin Scale—
Philadelphia, 570 brls.
Rangoon, 1,630 bgs. P. Henderson & Co.
Phosphate of Lime and Rock—
Antwerp, 1,698 bgs.
Potash—
Rotterdam, 43 cks. J. Rankine & Son
Hamburg. 24
Pumice Stone—
Messina, 60 bgs.
Pyrites—
Huelva, 1,699 t. Tharsis Co.
Soap—
Philadelphia 1 cs.
Starch—
New York, 10 bgs.
Rotterdam, 15 cs. J. Rankine & Son
Antwerp. 95
Sulphur—
Catania, 800 bgs. 28 brls
Tallow—
Philadelphia, 60 trcs.
Rotterdam, 29 J. Rankine & Son
Tartar—
Bordeaux, 6 cks.
Treacle—
New York, 400 brls.
Philadelphia, 30 100 hf.-brls.
Ultramarine—
Rotterdam, 4 cks. J. Rankine & Son
Varnish—
New York, 7 brls.
White Lead—
Rotterdam, 59 cks. J. Rankine & Son
Wood Pulp—
Bergen, 945 bls.
Holmstraud, 4,510
Christiania, 320 Alsing & Co.
" 880
Zinc Oxide—
New York, 220 brls.
Zinc White—
Rotterdam, 30 pks. J. Rankine & Son

TYNE.

Week ending February 26th.

Alum—
Rotterdam 2 cks. Tyne S. S. Co.
Alum Earth—
Hamburg, 54 cks. Tyne S. S. Co.
Barytes—
Rotterdam. 60 cks. Tyne S. S. Co.
Carbolic Acid—
Christiania, 1 tin
Castor Oil—
Antwerp, 28 brls. Tyne S. S. Co.
Colours—
Hamburg, 1 cs. Tyne S. S. Co.
Rotterdam, { 1 bx. Tyne S. S. Co.
9 brls. "
Glue—
Hamburg, 8 cks. Tyne S. S. Co.
Limestone—
Antwerp, 8 crts. Tyne S. S. Co.
Ochre—
Rouen, 69 cks. Jos. Brown & Co.
Soap—
Rotterdam, 3 cs. Tyne S. S. Co.
Soda—
Hamburg, 12 cks Tyne S. S. Co.
Starch—
Antwerp, 11 cs. Tyne S. S. Co.
Rotterdam, 226 "
Stearine—
Antwerp, 5 bgs. Tyne S. S. Co.
Tallow—
Hamburg. 40 cks.
Wood Pulp—
Gothenburg, 121 pks.
Christiania, 1,730 bls.
" 80 P. H Matthiessen & Co
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending February 23rd.

Alizarine—
Rotterdam, 181 cks. 91 cs.
Alkali—
Calais, 4 cks.
Aniline—
Hamburg, 20 cks. 1 cs.
Asbestos—
Rotterdam, 100 bls.
Barytes—
Antwerp. 90 bgs.
Chemicals (*otherwise undescribed*)
Ghent, 1 cs. 1 pk.
Hamburg, 2
Colours—
Hamburg, 21 cs.
Dyestuffs (*otherwise undescribed*)
Amsterdam, 1 ck.
Boulogne, 38 2 cs. 64 pks.
Rotterdam, 275 132
Extracts—
Hamburg, 63 bgs.
Farina—
Delfszyhl, 2,250 bgs.
Glucose—
Hamburg, 65 cks.
Glue—
Rotterdam, 20 bgs.
Indigo—
Rotterdam, 2 brls.
Lead Acetate—
Hamburg, 2 cks.
Logwood—
Hamburg, 44 t.
Hayti, 480
Ochre—
Calais, 36 cks.
Phosphate—
Dunkirk, 800 bgs.
Plumbago—
Boulogne, 1 cs.
Potash—
Calais, 8 dms.
Dunkirk, 54
Pyrites—
Seville, 745 t.
Rosin—
Savannah, 3,158 brls.
Saltpetre—
Hamburg, { 26 cks.
7 brls.
Starch—
Ghent, 42 bxs.
Stearine—
Antwerp 25 bgs.
Zinc Oxide—
Antwerp, 8 brls.

GRIMSBY.

Week ending February 26th.

Barytes—
Rotterdam, 50 bgs.
Caoutchouc—
Antwerp, 1 pk.
Hamburg, 2 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 3 cks. 2 cs.
Rotterdam, 1
Colours—
Antwerp, 5 cks. 6 cs. 63 pks
Hamburg, 19 18
Rotterdam, 1 28
Farina—
Hamburg, 50 bgs.
Pitch—
Dieppe, 10 cks.
Plumbago—
Hamburg, 1 cs.
Salt—
Hamburg, 1,000 bgs
Zinc Ashes—
Antwerp, 14 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 2nd.

Acids—
Cape Town, 20 cs. 12 kgs £86
Alkali—
Pt Chalmers, 2 t. 3 c. £12
Ammonia—
Bombay, 8 cs. £73
Sydney, 12 18
Ammonium Carbonate—
Paris, 19 c. £14
Ammonium Sulphate—
Mangalore, 6 t. £70
Hamburg, 150 1,514
Dunkirk, 190 11 c. 1,903
Bremen, 145 1,330
Ghent, 30 290
Ostend, 322 15 3,210
Barbadoes, 200 1,726
Arsenic—
Durban, 13 c. £15
Bisulphite of Lime—
Calcutta, 2 cks. £21
Bleaching Powder—
Gibraltar, 3 c. £5
Pt. Elizabeth, 10 cs 17
Borax—
Cape Town, 2 t £45
Antwerp, 1 2 c. 18
Galatz, 1 16
Dusseldorf, 4 17 78
Cologne, 1 16
Brisbane, 3 43
Carbolic Acid—
Calcutta, 3 cs. £14
Gibraltar, 2 8
Durban, 1 6
Hong Kong, 4 20 dms. 18
Philadelphia, 10 cks. 86
Carbonic Acid Gas—
Bermuda, 16 cs. £90
Caustic Soda—
Wellington, 2 t. 9 c. £26
Auckland, 10 6 80
Pt. Elizabeth, 7 8
Adelaide, 5 4 47
Melbourne. 5 8
Brisbane, 6 6
E. London, 15 11
Chemicals (*otherwise undescribed*)
Gibraltar, 3 cs £20
Barbadoes, 2 cks. 20
Pt. Said, 1 16
E. London, 23 pks. 38
Madras, 2 72
Sydney, 3 36
Antwerp, 18 200
Dunkirk 48 600
Bombay 47
Paris, 8 17
St. John's, N.B., 12 23
Jamaica, 10 52
Auckland, 4 10 76 131
Wellington, 185 122
Adelaide, 55 45
Melbourne, 24 22
B. Ayres, 52 130
Cape Town, 6 11
Constantinople, 60 63
Galatz, 3 kgs. 18
Hamburg, { 20 23 640
15 cks. 47 dms.
Rosario, 1 cs. 13
Citric Acid—
Sydney, 10 c. £51
Cape Town, 1 6
Hamburg, 1 ck. 29
Pt. Chalmers, 4 20
Bombay, 10 kgs. 6 93
Melbourne, 5 28
Brisbane, 10 54
Libau, 5 33
Karachi, 1 cs. 4
Maryboro', 1 7
Coal Products—
Alizarine
Boston. 10 cks. £118
Aniline
E. London, 1 cs. £40
Melbourne, 1 15
Aniline Oil
Venice, 4 cks. £30
Anthracene
Dusseldorf, 255 cks. £700
Benzol
Boulogne, 100 cks. £340
Treport, 151 683
Creosote Salts
Antwerp, 90 cks. £60
Naphtha
Durban, 8 dms. £7
Naphthaline
Hamburg, 6 cks. £52
New York, 88 56 bgs. 172
Philadelphia 363 41
Pitch
Alexandria, 254 brls. £56
Antwerp, 1,620 t. 2,003
Melbourne, 40 2

Tar
Cape Town, 16 brls. £35
Dunedin, 5 5
Stettin, 100 48
Wellington, 4 9
Brisbane, 100 dms. 19
Danzig, 848 427
Pt. Elizabeth, 150 18

Coal Products (*otherwise undes.*)—
Mauritius, 40 pks. £20

Copper Sulphate—
Canterbury, 2 t. 10 c. £41
Hobart, 1 20
Rotterdam, 5 84
Naples, 55 922
Leghorn, 25 416
Genoa, 23 380
Odessa, 20 14 308
Pari-, 133 11 2,223
Antwerp, 10 155
Piræus. 32 4 575
Wellington. 10 9

Copperas—
Salonica 30 t. 6 c. £53
New York, 1 25

Cream of Tartar—
Sydney, 1 t. £78
Charters Towers, 3 c. 14
Auckland, 1 85
Melbourne, 1 6 78
Brisbane, 5 21

Disinfectants—
Yokohama, 2 cs. £11
Hamburg, 150 dms. 18
Calcutta, 50 cks. 43
Hong Kong, 10 52
Pt. Elizabeth, 2 10
Bombay, 33 pks. 80 84

Dried Blood—
Dunkirk, 23 t. 7 c. £138

Guano—
Reval 1 t. 7 c. £43
Barbadoes, 69 483

Manure—
Jersey, 93 t. £500
Demerara, 100 900
Rochefort, 100 275
St Lucia, 60 525
Odessa, 4 3 c. 57
Guadeloupe, 6 2 155
Havre 25 80
Grenada, 2 14
Colombo 50 250

Muriatic Acid—
Bombay, 1 t. £13

Nitric Acid—
Shanghai, 1 cs. £13

Oxalic Acid—
Bombay, 10 kgs. £17

Phosphate—
New York, 14 t. 1 c. £122

Potash—
Hong Kong, 3 c. £6
New York, 2 24
Hamburg, 5 t. 5 105

Potash Salts—
Auckland, 5 t. £450

Potassium Chlorate—
Hamilton, 5 c £9
Calcutta, 1 t. 32
Pt. Said, 25 cks. £42

Potassium Cyanide—
Durban, 50 cs. £560
Calcutta, 1 5
Sydney, 35 334
Rio de Janeiro, 4 t. 9 c. 421

Saltpetre—
Hamilton, 14 c. £18
Hamburg, 2 t. 42
Dunedin, 1 10 31
Sydney, 2 40
Halifax, 6 110

Sheep Dip—
Pt. Elizabeth, 2 t 15 c. £85
E London, 750 cs. 937
Auckland, 100 123
B. Ayres, 1,250 2,808
Cape Town, 100 325
Durban, 15 100 kgs. 32

Soda—
Bombay, 1 t. 16 c £12
Brisbane, 11 14 85
Penang, 2 1 14
Hamburg, 5 39

Sodium Bicarbonate—
B. Ayres, 2 c. £5
Pt. Elizabeth, 1 t. 14

Sodium Sulphate—
Ghent, 50 t. £75

Sulphur—
Pt. Elizabeth, 150 kgs. £57

Superphosphates—
Morlaix, 100 t. £200
Barbadoes, 90 248
St. Kitts, 40 113

Tartaric Acid—
Calcutta, 2 c. £14
Napier, 2 cks. 9
Auckland, 10 56
Dunedin, 3 18
Malta 2 13
E. London, 2 10
Pt. Elizabeth, 4 27
Rouen, 10 60

LIVERPOOL.

Week ending March 2nd.

Acetate of Lime—
Santos, 19 c. 2 q. £11

Alkali—
Lagos, 2 c. 2 q. £5
Tampico, 1 t. 6 3 6

Alum—
Pernambuco, 2 t. £12
Windsor, Ont., 3 15
Ibrail, 3 15
Smyrna, 3 4 c. 2 q. 17
Galatz, 1 10 10

Alumina Sulphate—
Portland. 10 t. 2 c. £40

Aluminous Cake—
Calcutta, 73 t. 17 c. 3 q. £202

Ammonia—
Algoa Bay, 60 cs. £68

Ammonia (Liquid)—
Old Calabar, 1 c. £10
Antofagasta, 2 7

Ammonium Carbonate—
Antwerp, 9 c. £11
Genoa, 1 t. 17 49
Yokohama, 2 2 1 q. 64
M. Video, 1 1 32

Ammonium Chloride—
Shanghai, 4 c. £7
Trieste, 4 t. 119
Genoa, 1 1 1 q. 30
Jeddah, 1 2 35
Rio de Janeiro, 19 2 25
Braila, 5 9
Galatz, 1 1* 35
Barcelona, 3 3 57
Salonica, 1 1 1 35
San Francisco, 4 6 73

Ammonium Sulphate—
St. John's, N.B., 4 t. 19 c. £50
Castellon, 50 513
Sourabaya, 113 2 q. 1,003
Samarang, 43 5 3 379
Lisbon, 10 5
Genoa, 50 5 2 505
Gd. Canary, 15 3 1 150
Valencia, 162 6 2 1,554

Bleaching Powder—
Bombay, 10 cs.
Boston, 596 cks.
Chicago, 8, bxs.
Cornwall, 50 kgs.
Genoa, 387
Ghent, 76
Havana, 30 brls.
Leghorn, 30
Montreal, 17 36 pks.
Naples, 15
Newport News, 247 205 sks.
New York, 348 25
Oporto, 80
Philadelphia, 234
Rouen. 9
Tampico, 15
Vera Cruz, 100

Boracic Acid—
Hiogo, 3 t. £70

Borax—
Tampico. 12 c. £7
Pt. Natal, 12 7
Hiogo, 3 t. 3 46
Rio de Janeiro, 10 8
Amsterdam, 2 30
Belgium, 2 5 31
Ghent, 9 7
Rotterdam 10 8
Genoa, 4 3 2 q. 60
Talcahuano, 11 8
Vera Cruz, 2 13 3 35
Bremen, 5 3 2 78

Calcium Chloride—
Odessa, 11 t. 6 c. £21
M. Video, 2 12 6
Boston, 46 15 3 q. 95
Sydney. 15 8 34

Carbolic Acid—
Barcelona, 4 c. £16
Hainburg, 9 t. 9 3 q. 609
New York, 9 4 354
Yokohama, 7 10 490
Hiogo, 4 10 2 239

Caustic Potash—
Chicago, 4 t. 7 c. £140

Caustic Soda—
Adelaide, 35 dms
Alexandria, 46
Alicante, 40
Ancona, 35
Antwerp, 70
Bahia 15
Barcelona, 100 52 cks.
Bari, 18
Bilbao, 15
Bombay, 26
Boston, 50 brls.
B. Ayres, 154
Cadiz, 20
Cardinal, 100
Cartagena, Sp., 56 45
Chicago 70 bxs.
Cincinnati, 50
Calcutta, 207
Copenhagen, 3
E London, 20
Fiume, 64
Galatz, 100
Genoa, 420
Hamburg, 150
Hiogo. 169
Hong Kong, 31
Jaffa, 30
Jewitt City, 50
Lisbon, 15
Libau, 20
Limon, 30
Maceio, 50
Malaga, 80
Manaos, 12
Mauritius, 10
Melbourne, 21
Milwaukee, 290
Monmouth, 50
M. Video, 115
Naples 25
New York, 550 100
Odessa, 385
Oporto, 75
Panama, 40
Pernambuco, 19
Philadelphia, 100
Piræus 16
Pimental, 10
Pt. Said, 20
Rangoon, 15
Rio de Janeiro, 20
Rotterdam, 144
Rouen. 63
Santander, 10
Santos 15
Sao Paula, 130
Seville, 50
Shanghai, 10
Stettin, 23
Tampico, 220
Tarragona, 30 10 cks.
Trieste, 48
Valencia, 50
Vera Cruz 110
Vigo, 4
Woodstock, 50
Rio G. Do Sul, 50

Chemicals (*otherwise undescribed*)
Penang, 1 t. £30
Barcelona, 10 c. 15
Gothenburg 10 15
Calcutta. 1 10 55
New York, 16 15 545
Stettin, 2 17 81
Rio de Janeiro, 11 65
Hamburg, 1 29
Corinto, 11 63

China Clay—
Barcelona, 20 cks.
Boston. 1 824
Calcutta, 719
Melbourne, 20 21 pks.
Newport News, 560
New York. 80 bgs.
Pernambuco, 10
Portland. 480
Rio de Janeiro. 97

Citric Acid—
Hiogo, 11 c. £54
Victoria, 1 5
Vancouver, 2 11
B. Ayres, 8 cs. 86
Yokohama, 10 3 q. 57
Toronto, 1 t 116

Coal Products—
Aniline
Alexandretta, 20 brls.
Alexandria, 1 ck.
Boston, 2 kgs. 38 cs.

Aniline Colours
Philadelphia, 5 cks.
Shanghai, 15 cs.
Vera Cruz, 9 2 dms.
New York, 25 pks.
Portland, 8 kgs.

Aniline Oil
East St. Louis, 20 dms.
Philadelphia, 20

Aniline Salts
New York, 5 cks.

Anthracene
Rotterdam. 22 cks.

Creosote Oil
Bordeaux, 250 cks.
Philadelphia. 280 bgs.

Naphthaline
Philadelphia, 337 bgs.

Pitch
Cette, 663 t.
Galatz, 180 brls.
Nantes, 181

Tar
Conakry, 15 cs.
Galatz, 265 brls.
Manaos, 8 cks.
Newport News, 59

Copper Sulphate—
Johannesburg, 10 c. £8
Cape Town, 5 t. 79
Brindisi, 14 10 220
Odessa, 3 1 q. 46
Palermo, 4 19 2 79
Smyrna, 1 19 32
Almeria, 9 10 1 159
Piræus, 15 11 251
Batoum, 60 9 1 938
Paris, 51 1 2 856
Hamburg, 13 19 2 342
Pyrgos, 20 306
Rio de Janeiro, 1 10
Bordeaux, 374 6,116
Venice, 36 18 3 594
Lisbon, 83 18 1 1,443
Messina, 9 7 3 164
Leghorn, 103 11 1 1,658
Trieste, 10 2 171
Cette, 422 15 7,110
Oporto, 50 4 2 789
Marseilles 15 4 2 240
Naples, 126 1 2 2,116
Galatz, 4 65
Bari, 98 1,572
Genoa 270 19 1 4,551
Ancona, 31 1 1 524
Nantes 10 3 1 166

Copperas
Calcutta 1 t. 10 c. £3
Syra, 4 9

Cream of Tartar—
Pt. Limon, 2 c. £7

Creosote Salts—
Philadelphia, 20 t. 11 c. £38

Disinfectants—
Calcutta, 2 t. 10 c £12

Dried Blood—
Rouen, 50 t. £300
Mauritius. 5 3 c. 32

French Chalk—
Pernambuco, 15 bgs.

Gypsum—
Bilbao, 2 t. 8 c. £8

Iron Oxide—
Lisbon, 1 t 1 c. £11
Genoa, 7 8 32

Lead Acetate—
Bombay, 6 c. £14

Magnesia
Paris 34 cs.
Barcelona, 5
Havre, 2 t. £36

Magnesium Carbonate—
Mexico City, 8 cs.
Rio de Janeiro, 3
Tampico. 9 c. £16

Magnesium Sulphate—
Dunedin, 50 kgs.
New York, 4 cks.
Rio de Janeiro 200

Manure—
Marseilles, 21 t. 10 c. £70
Vancouver, 9 10 333
Madeira, 10 61
Nakskov, 900 2,048
Antwerp, 4 18 2 q. 23
St Malo, 10 1 51

Muriatic Acid—
B. Ayres, 6 c. 2 q. £7
Rio Grande Do Sul, 2 1 1
Porto Alegre, 2 1 1

Nitric Acid—
Rio Grande Do Sul, 2 c. 2 q. £3
Porto Alegre, 2 2

Oxalic Acid—
Philadelphia, 1 t. 16 c. £50
San Francisco, 3 7 2 q. 92
Truro, N.S., 6 10

Paint—
Arecibo, 76 kgs.
Beyrout, 1 ck. 38
Cienfuegos, 2
Constantinople, 200
Curacao, 6
Ferrol, 2
Gibraltar, 10 pks.
Iquique, 12
Iquitos, 17
Manaos, 7
Mollendo, 31 cs.
Nassau, 3
Para, 8
Ponce 81
Pt. Elizabeth, 17
Pt. Natal, 11
Shanghai, 100 pks.
Symi, 4 20
Talcahuano, 10 cs.
Tongshau, 90
Trieste. 12
Valparaiso, 60 pks.

Painters' Colours—
Acajutla, 5 cks.
Alexandria, 85 1 cs.
Baltimore, 166
Bremen, 4 100 bgs.
B. Ayres, 150
Burmutu, 50 kgs.
New York, 2 pks.
Para. 6
Penang, 4
Rio de Janeiro, 23 cs. 4 brls.
Rotterdam, 2
Sabaora, 1 tce.
Santos, 3

Paraffin Wax—
Boston, 25 cs.
Genoa, 17 bgs. 2
Leghorn, 90
Messina, 47
Naples, 150
Palermo, 22
Pernambuco, 13 cks.
Sourabaya, 50 dms.
Venice. 50 bgs.

Phosphorus—
Hong Kong, 4 c. £52
Hiogo, 5 t. 2 1,006
Yokohama, 1 210

Picric Acid—
San Francisco, 4 t. 9 c. 1 q. £425
New York, 1 12 1 160

Potash—
Palermo, 1 t. 16 c. 2 q. £35

Potassium Bichromate—
Truro, N S, 3 c. £5
B. Ayres, 2 t 10 2 q. 88
Syra, 1 36
Barcelona, 2 2 3 75
Vera Cruz, 4 17 204
Smyrna. 1 40

Potassium Carbonate—
Chicago, 3 t. 5 c. £72
New York, 10 10 204

Potassium Chlorate—
Odessa, 2 t. £72
Sydney, 5 140
Philadelphia, 3 86
Ancona, 1 10 c. 52
Rotterdam. 10 16
Rio de Janeiro, 1 2 3 q. 36
Boston, 10 282
Calcutta, 10 15
Corunna. 1 29
New York, 11 5 310
Melbourne, 1 30
Hiogo, 47 15 1,350
Shanghai, 5 11 167
Hamburg, 3 17 126
Bari, 3 6 109

Potassium Chromate—
Bombay, 1 t. 5 c. £30

Potassium Cyanide—
Singapore, 1 t. 1 c. £63

Potassium Prussiate
Shanghai, 5 c. £16

Potassium Silicate—
Amsterdam, 1 t. 5 c. £10

Salt—
Abonnema, 10 t.
Akassa, 595 10 c.
Algoa Bay, 27 6
Ambrizette, 3 15
Amsterdam, 107
Antwerp, 50
Baltimore, 165
Barbadoes, 1 12 cs.
Boston, 100
Brussels, 3 13 c.
B Ayres, 17 3
Cape Town, 22 6
Charleston, S.C., 1,535
Conakry, 109 7
E London, 53 11
Ghent. 55
Gibraltar, 1 18
Gd Bassam, 25
Hamburg, 175
Jamaica, 59 19
Manoh 25
Mauritius, 100
M. Video, 8 2
N. Orleans, 1,516
New York, 25
Pt. Elizabeth, 35 14
Rangoon, 1,306
Rio de Janeiro, 250 cs.
Rosario, 16 13 c.
Santos, 100 cs.
Sapeli, 6 5 c.
Sherbro, 25 2
Sinoe, 5
Sulymah, 25
Sydney, 50 40 cks.
Trinidad, 18 4
Vancouver, 95 5
Warri, 16
Wellington, 20
Westpoint, 1,250
Winnebah, 10
Yokohama, 1 1

Salt Cake—
Antwerp, 90 t. £95
Bombay, 19 c. 3

Saltpetre—
Pernambuco, 2 t. 18 c. £63
St. John's, N.B., 5 5

Satinite
Calcutta, 2 t. 12 c. £12
Copenhagen, 26 19 2 q. 95

Sheep Dip—
B. Ayres, 11 t. 3 c. 1 q. £313
E. London, 2 15 3 32

Soap—
Accra, 425 bxs.
Addah, 40
Alexandria, 5 1 cs.
Algoa Bay, 2,465
Antwerp, 54
Athens, 4
Bakana, 200
Bangkok, 200
Barbadoes, 300
Beira, 50 10 bdls.
Benin, 150
Bombay, 25 17
Boston, 10
Brass. 100
B. Ayres, 71
Calcutta, 299 15
Cape Coast, 50
C. C Castle, 375
Cape Town, 4,138 40
Chama, 30
Constantinople, 5
Delagoa Bay, 840 45 25
Dominica, 20
Dunedin, 1 tank
E. London, 1,280 10
Elmina, 100
Ferrol, 6
Genoa, 45
Gibraltar, 400
Greytown. 180
Guayaquil, 200
Gd. Bassa, 15 pks.
Gd Bassam, 10
Half Jack, 20
Hamburg, 200
Honolulu, 25
Jamaica, 1,206
Johannesburg. 260 240 dms.
Kimberley, 35
Lagos. 280
Leghorn, 27
Las Palmas, 443
Lome 30
Manaos. 100
Mauritius, 500
Monrovia. 25
New York, 8
Old Calabar, 2,900
Opobo. 4,220
Para, 66 bdls.
Penang, 154
Petit Goave 3 0
Pt. Elizabeth, 720
Pt. Natal, 138 5
Pram Pram, 62
Rangoon, 506 5
Rotterdam, 276
St. Domingo, 20
St. John's, N'fld., 1
St. Kitts, 50
St. Lucia, 100
Salt Pond, 100
Samarang. 2
Sapeli, 350 pks.
Shanghai, 9,250 5,335
Sherbro, 20
Si rra 125
Singapore, 2 130
Smyrna, 20
Surinam, 40
Tamatave, 250
Teneriffe, 100
Toronto, 156
Trinidad, 120
Valparaiso, 50
Warri, 900
Zanzibar, 250

Soda Alkali—
Barcelona, 35 brls. 30 cks.
Genoa, 70
Ibrail, 20
Mauritius. 35
Melbourne, 64
Messina, 17
Odessa, 50
Piræus, 35

Soda Ash—
Algoa Bay, 24 cks.
Antwerp, 2,240 bgs.
Bahia, 20
Boston, 160 71
B. Ayres, 504
Catania, 100
Copenhagen, 400
Genoa, 18
Gothenburg, 50
Hamburg, 34 brls.
Hiogo, 260
Hong Kong, 60
Jaffa, 50
Johannesburg, 50 kgs.
Leghorn, 120 bgs. 36
M. Video, 50
Montreal, 65 tcs.
New York, 1,314 179
Philadelphia, 2,340 115 10
Reval, 30
Rio de Janeiro, 50 brls. 50
Rio Grande Do Sul, 10
Salonica, 60
Samos. 10
Sydney, 232
Trieste, 200 bgs.
Truro, 2 tcs
Varna, 50 brls.
Venice, 200

Soda Crystals—
B. Ayres, 100 kgs. 10 cks. 123 brls.
Chatham, 50
Calcutta, 34
Delagoa Bay, 90
Honolulu, 25
M. Video, 50 25
Para, 7
Pt. Natal, 25
Truro, 30
Winsor, 50
Yarmouth, 35 5 dms.

Soda Oxide—
Leghorn, 10 cs.
Moscow, 6

Sodium Bicarbonate—
Alexandria, qty.
Amherst, 10 bgs. 25 kgs.
Antwerp, 20 cks.
Barcelona, 330 3
Bombay, 225
Bordeaux, 7
Braila, 20
B. Ayres, 30
Calcutta, 500 13
Constantinople, 30 dms.
Galatz, 60
Genoa, 140 14
Gibraltar, 8
Gothenburg, 20
Halifax, 125
Hamburg, 21 pks.
Hiogo, 200
Hong Kong, 60
Honolulu, 150
Karachi. 375
Kustendjie, 34
Malaga, 60
Malta. 34
Marseilles, 135
Mexico City, 18
M. Video, 45
Nagasaki. 200
New York. 60
Odessa. 600
Piræus, 30
Rangoon, 150
Rio de Janeiro, 90
Rouen, 12 50 brls. 8
St. John's, N.B., 75 bgs. 200 kgs.
Salonica, 12 20
Sydney, 167
Talcahuano, 50
Truro. 150
Yarmouth, 175
Yokohama, 250

Sodium Bichromate—
Nantes, 45 kgs.

Sodium Carbonate—
Boston, 56 brls.

Sodium Chlorate—
Philadelphia, 50 kgs.

Sodium Hyposulphite—
San Francisco, 150 kgs.
Santander, 16 brls.

Sodium Nitrate—
Melbourne, 10 t. 2 q.

Starch—
Copenhagen. 6 cks.
Pernambuco, 30 bgs.
Samos, 5 cs.

Sulphur—
Philadelphia, 100 t. 1 c. £

Sulphuric Acid—
Iquitos, 9 c.
Para, 4

Superphosphates—
Antwerp, 19 t. 14 c.
Lisbon, 1 1 3 q.
Genoa. 39 8 1
St. Malo, 109 18 3
St Nazaire, 100

Tannic Acid—
Bahia, 1 c.

Tartaric Acid—
Iquitos, 2 c.

Tin Chloride—
Bombay, 6 c.

Turpentine Substitute—
Rotterdam, 11 c. 2 q.

Varnish—
Antwerp, 18 cks.
Batavia, 6 cs.
Bilbao, 1
Braila, 1
Melbourne, 19
Pernambuco, 2

Verdigris—
Penang. 11 c. 1 q.

White Lead—
Puerto Cabello, 1 ck.
St. Thomas, 3
Shanghai, 50 kgs.

Zinc Chloride—
Belgium, 1 t. 14 c.
Oporto, 2 9 2 q.

MANCHESTER

Week ending March 2nd.

Bleaching Powder—
Rio de Janeiro, 8 cs.

Caustic Soda—
Rio de Janeiro, 7 dms

Chemicals (*otherwise unaescri*
Rotterdam, 6 cks.

Copper Sulphate—
Rio de Janeiro, 1 ck.

Gelatine—
Bombay, 2 cks.

Glue—
Belgium, 10 cks.
Holland, 28

Linseed Oil—
Bombay, 100 dms

Logwood—
Bombay, 6 cs.
Christiania, 50 bgs.

Mineral White—
Rio de Janeiro, 14 bgs.

Naphthol Salts—
Germany, 4 cks.

Painters' Colours—
Germany, 1 cs.
Russia, 3

Pitch—
Cette, 845 t.

Plumbago—
Christiania, 1 ck.

Potassium Carbonate—
Rio de Janeiro, 3 cks.

Pyridine—
Germany, 12 cks.

rg, 100 t.
2 pns.
3 bxs.
1 kg.
Naphthionate—
51 cks.
c Acid—
neiro, 15 cs.
20 cks.
6
s—
1 pn.
49 dms.
25 cks.

LASGOW.

ending March 3rd.

— £127
um Sulphate—
277 t. 14¾ c.
678 14
5 3
445 10½
a, 66 19
—
ia, £2
Sulphocyanide—
£64
g Powder—
Wales, 8 t. 19½ c.
66 18¾
so, 1 5½
Acid—
£48
m, £16
91
£38 10s.
Acid—
£37
il—
£76
Soda—
re, 4 t. 8¾ c.
oducts—
ne
£42
ne Oil
£22
l
am £125
ote Oil
g, 4 t. 10 c.
£237
60
nia, 6
£30
170
£151
43
51
re, 146
£53
113
Oil
rg, £110
am, 31
as—
£38
lood—
24 t. 16½ c.
ffs (*otherwise undescribed*)
rk, £60
79
s—
£31
137
e—
£261
rk, 1,042
£45
—
50 t. 18¾ c.
l Oil—
ki, 2 t.
re, 1 10 c.
ai, 1 8

Litharge—
Johannesburg, £21
Logwood—
Lisbon, £62
Manganese—
Rotterdam, 9 t. 15 c.
Manure—
Lisbon, 10 t. 10¼ c.
Paint—
Yokohama, £37
B. Ayres, 41
Havana, 65
Lisbon, 45
Painters' Colours—
Chefoo, qty.
Colombo, ,,
Hong Kong, ,,
Nagasaki, ,,
Newcastle, ,,
Singapore, ,,
Shanghai, ,,
Sydney, ,,
Rotterdam, £50
Antwerp, ,,
Bombay, 51
Brisbane, 248
Bundaberg, 56
Rockhampton, 26
Calcutta, ,,
Cape Town, ,,
Demerara, ,,
Huelva, ,,
U.S.A., 28
Paraffin Wax—
Bordeaux, £156
Marseilles, 104
Singapore, 43
Barcelona, 230
Antwerp, 25
Cape Town, 28
Russia, 1,215
Turkey-in-Europe, 52
Potash Salts—
Mexico City, £467
Potassium Bichromate—
Barcelona, £823
U.S.A., 430
Yokohama, 174
Antwerp, 353
Ghent, 73
Lisbon, 159
Potassium Chlorate—
Sydney, £175
Potassium Cyanide—
Madras, £925
Rosin—
Calcutta, £83
Rosin Oil—
Rotterdam, 12¾ c.
Salt—
Brisbane, 452 t. 4 c.
Soap—
Bombay, 3 t. 3½ c.
Canada, 1 10½
E. London, 5
Bayonne, 2 5
Cayenne, 1 2¼
Johannesburg, 5 5¾
Sodium Arseniate—
Lisbon, 1 t. 11 c.
Sodium Bichromate—
Barcelona, 16 t. 7½ c.
U.S.A., 3 3¾
Ghent, 3 6½
Starch—
Rotterdam, 2 t.
Sulphuric Acid—
Calcutta, £15
Tallow—
Rotterdam, 6 t. 10 c.
Treacle—
Cape Colony, 2 t. 10 c.
Christiania, 13 7½
Yarnish—
Tokio, £32
Whiting—
Brisbane, £63

HULL.

Week ending February 26th.

Alkali—
Bergen, 2 cks.
Ammonium Sulphate—
Dunkirk, 200 bgs.
Genoa, 500
Rotterdam, 100
Bleaching Powder—
New York, 25 cks.

Chemicals (*otherwise undescribed*)
Alexandria, 12 cs. 5 dms.
Antwerp, 37
Bordeaux, 10
Christiania, { 4 cks. 6 1,454 slbs. 5 pks.
Copenhagen, 6
Danzig, 30
Gothenburg, 11 6
Genoa, 48 204 kgs.
Hamburg, 125
Libau, 125 pks.
Naples, 3
New York, 11 240 kgs.
Rotterdam, 24
Stettin, 2 2 pks.
Cottonseed Oil—
Amsterdam, 1,115 c.
Antwerp, 1,501
Bordeaux, 104
Danzig, 83
Hamburg, 548
Marseilles, 2,500
Rotterdam, 460
Rouen, 737
Dyestuffs (*otherwise undescribed*)
Rotterdam, 23 cks.
Farina—
Danzig, 20 bgs.
Glue—
New York, 70 cks.
Guano—
Dunkirk, 40 t.
Linseed Oil—
Amsterdam, 103 c.
Antwerp, 81
Bergen, 18
Christiania, 81
Copenhagen, 17
Hamburg, 50
Stavanger, 54
Manure—
Bordeaux, 935 bgs.
Mineral White—
Bergen, 50 bgs.
Paint—
Ghent, 1 cs.
Stavanger, 1 ck.
Painters' Colours—
Amsterdam, 12 cks. 8 dms
Antwerp, { 46 19 52 pks.
Bordeaux, 3
Bremen, 1
Christiania, 2 1 cs. 10
Copenhagen, 10 1
Dunkirk, 5
Drontheim, 110
Danzig, 32
Gothenburg, 2
Ghent, 2 2 11 dms.
Hamburg, 36 4
Harlingen, 2
Naples, 15
New York, 60
Rouen, 14
Pitch—
Antwerp, 270 t.
Soap—
Amsterdam, 5 cs.
Starch—
Danzig, 50 cs.
Tallow—
Antwerp, 2 cks.
Tar—
Antwerp, 1 ck.
Dunkirk, 60
Hamburg, 18
Marseilles, 40 brls.
Turpentine—
Antwerp, 1 cs.
Varnish—
Antwerp, 1 ck. 3 cs.
Genoa, 2 brls.
Ghent, 2 cs.
Hamburg, 2 1
Harlingen, 1
Whiting—
New York, { 50 cks. 100 bgs.

TYNE.

Week ending February 26th.

Alkali—
Amsterdam, 7 t. 5 c.
Rotterdam, 1 14
Alum Waste—
Horsens, 10 t.

Ammonium Chloride—
Batoum, 2 t. 8 c.
Anthracene—
Rotterdam, 32 t. 10 c.
Antimony—
Rotterdam, 13 t.
Barium Binoxide—
Rotterdam, 17 t. 11 c.
Bleaching Powder—
Copenhagen, 2 t. 14 c.
Hango, 20 4
Christiania, 30
Amsterdam, 13 5
Antwerp, 5 16
Hamburg, 3 7
Carbolic Acid—
Rotterdam, 5 t. 14 c.
Caustic Soda—
Copenhagen, 5 t. 2 c.
Hango, 40
Hamburg, 30 3
Rouen, 4 18
Gotenburg, 4 18
Copperas—
Copenhagen, 1 t. 10 c.
Litharge—
Christiania, 11 c.
Hamburg, 11 t. 9
Magnesia—
Hamburg, 13 c.
Gothenburg, 1
Manganese—
Rouen, 1 t. 5 c.
Naphthaline—
Copenhagen, 17 t. 1 c.
Paint—
Antwerp, 1 t.
Christiania, 1 2 c.
Copenhagen, 1 15
Gothenburg, 14
Rotterdam, 1 1
Stavanger, 11
Soda—
Christiania, 8 t. 2 c.
Constantinople, 24 7
Copenhagen, 2 13
Rotterdam, 10
Sodium Hyposulphite—
Amsterdam, 1 t.
Antwerp, 2 3 c.
Sulphur—
Christiania, 150 t.
Gothenburg, 35
White Lead—
Hango, 4 c.
Constantinople, 5 t. 4
Wood Pulp—
Christiania, 8 c.

GOOLE.

Week ending February 23rd.

Alkali—
Rotterdam, 1 ck.
Chemicals (*otherwise undescribed*)
Amsterdam, 21 cks.
Coal Products (*otherwise undes.*)—
Boulogne, 30 cks. 3 cs.
Hamburg, 13
Rotterdam, 32
Colours—
Ghent, 2 tins
Rotterdam, 10 cs.
Manure—
Dunkirk, 194 bgs.
Ghent, 197
Pitch—
Antwerp, 779 t.
Soap—
Ghent, 1 ck. 2 cs.

GRIMSBY.

Week ending February 26th.

Alkali—
Hamburg, 15 cs.
Chemicals (*otherwise undescribed*)
Dieppe, 1 cs.
Malmo, 6 cks.
Rotterdam, 3 40 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 58 cks.
Hamburg, 2 cs.
Colours—
Antwerp, 5 cks. 7 kgs.
Hamburg, 2
Rotterdam, 1 cs.

PRICES CURRENT.

WEDNESDAY, March 9th, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary*

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	20	7	6
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	10	0
„ „ (grey) Hull	„	9	7	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	0	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	4
„ 50/90 „	„	0	1	6½
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	0	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	50	10	0
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	45	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	15	0
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	15	0
„ „ (grey) (ex ship	„	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	6
Oils :—				
Cotton-seed	per ton	15	10	
Linseed	„	17	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	6½
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¼
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton f.o.r. w'ks.	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ f.o.r. w'ks.	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ f.o.r. w'ks.	4	0	0
„ „ (Alkali) 58 %	„ „ f.o.r. w'ks.	4	0	0
„ „ (Soda Crystals)	„ „ f.o.r. w'ks.	2	5	0
„ Acetate (ex-ship)	„	12	0	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3½
„ Borate (Borax)	net, per ton.	13	0	0
„ Bichromate	„ per lb.		0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton 10 ton lots	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ 10 ton lots	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ 10 ton lots	7	7	6
„ „ (60 % Caustic Soda)	„ „ „ 10 ton lots	6	7	6
„ „ (pure liquor 90° Tw.)	„ „ „ 10 ton lots	3	17	0
„ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	68	0	0
Zinc (Spelter)	„	18	7	6
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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AND

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

THE WASTE PICKLE AGAIN

IN the Midlands the disposal of galvanisers' waste pickle has long been a trouble both to manufacturers and local authorities, but the day when it will be dealt with to the satisfaction of all parties seems to be hoving in sight.

We had occasion some time back to refer to the interesting report made by Dr. Fosbroke, which was tolerant and to the point.

So far, however, nothing definite has resulted, and manufacturers were still left in that unpleasant state of uncertainty which is so prejudicial to industrial progress.

It is refreshing, therefore, to note that an influential conference was held quite recently at Stourbridge, at which representatives from the leading manufacturers and local authorities met to discuss the present position, and endeavour to arrive at some concerted system of dealing with this troublesome waste acid.

The first part of the conference was private, but it had reference to the possibility of devising a scheme for the disposal of the waste acids from the galvanising works in a manner that would be least burdensome to the owners, as large contributors to the rates. The grouping of several of the smaller works together for the purpose of jointly neutralising the acid was one of the points referred to. This idea, which has been partially tried, and gave promise of success, until strangled by the Wolverhampton Corporation, was wisely re-juvenated by Dr. Fosbroke in his report.

It is encouraging to find that throughout the conference a temperate spirit prevailed ; and although some of the complications and difficulties in sewage treatment and the like, complained of by the local authorities, were substantial and even serious, nevertheless there was evidence of forbearance on the part of the local authorities, who expressly stated that they had no desire to press for a remedy which would hamper trade.

As far as sewage is concerned, it may not make much difference when chemical precipitation is adopted ; but in the case of sewage farms, which are costly both as regards establishment and up-keep, the prospective effect of a well pickle-dosed sewage on the vegetation is certainly alarming.

Under these circumstances, the final proposition, as adopted by the conference, is emphatically welcome. This proposal was to the effect that a committee be appointed, consisting of the chairmen of the Sanitary Committees of the various District Councils and sewerage boards, together with Mr. Willis Bund, Sir Douglas Galton, and Dr. Fosbroke, to consider the best means of dealing with the question.

The only thing which makes the whole affair seem so pitiful is that similar steps should not have been taken long ago, before this waste acid difficulty actually played a part in driving away one of the largest galvanisers in the district.

ANILITE.

It is an undoubted fact that agriculture is fast changing from an Art into a Science. This change may not be very apparent as far as practical farming is immediately concerned, but in many directions, and especially in regard to the principles of fertilizing, the whole trend of affairs has been altered, and chemistry has been proved to be an invaluable aid to those farmers who are sufficiently modernised to be able to appreciate and make use of it. We say advisedly make use of it, because chemistry is a good servant, but it must not be depended upon by men who can only be led, or the results may be disastrous. The same may be said of biology, which has quite recently produced two of the most revolutionary discoveries affecting farming.

While the scientific world is just beginning to grasp the wonders and possibilities of Nitragin, it has again been startled by the introduction of Anilite, which promises to do for cereals what Nitragin has done for leguminous plants.

Germany is again the source of origin, the discovery being the outcome of a five years' investigation conducted by a Mr. Caron.

In all essential details Anilite is the counterpart of Nitragin, since it is used to inoculate the seeds or soil with micro-organisms which are capable of extracting nitrogen from the air and supplying it to the cereals during their development.

At present the experiments have only been made on a small scale, and it is important to warn all those who have not actually received a scientific training to abstain from criticism; neither exaggerating nor depreciating a discovery which is undoubtedly the germ of important advances, but is, nevertheless, at present only a germ. At the same time, the fact of its being so insignificant to the utilitarian does not justify the latter in seeking to extinguish the spark of vitality which has been so laboriously kindled.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for January. The total shipments were 85,412,917 gallons, compared with 61,006,066 in 1897. The total for the seven months ending January 1898, were 617,984,401 gallons, against 563,203,814 gallons during the same period in 1897. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Jan., 1898	8,835,695
" " 1897	8,594,840
NAPHTHAS.	
Total, Jan., 1898	1,070,538
" " 1897	260,372
ILLUMINATING.	
Total, Jan, 1898	67,074,120
" " 1897	47,623,153
LUBRICATING AND PARAFFIN.	
Total, Jan., 1898	5,304,614
" " 1897	4,527,113
RESIDUUM.	
Total, Jan., 1898	3,127,950
" " 1897	588

Sodium Oxalate in Acidimetry.—According to Mr. S P. L. Sorensen, writing in the *Zeit. anal. Chem.*, normal sodium oxalate is readily obtained in a pure state by crystallising the commercial salt from a feebly alkaline solution, washing the crystals with cold water and re-crystallising them. It contains no water of crystallisation, is not hygroscopic, and can be weighed out very exactly after being dried at 125°C. or even 150°C. The weighed quantity is then converted into sodium carbonate by moderate ignition in a covered platinum crucible. Sodium oxalate can also be used for standardising permanganate solutions, and has the advantage over oxalic acid of not efflorescing.

THE PETROLEUM COMMITTEE.

THIS Committee has now been re-appointed, presumably with a view to making some definite report, after sitting for nearly two years. The new Committee consists of fifteen members, not one of whom, so far as we are aware, is specially identified with the trades concerned or versed in the chemical aspects of the question. The following are their names and constituencies:—

Mr. Jesse Collings (L.U.), Birmingham (Bordesley).
Mr. Alex. Cross (L U), Glasgow (Camlachie).
Sir T. Gibson-Carmichael (L.), Midlothian.
Mr. J. Fortescue Flannery (L.U.), Shipley.
Sir Edward Hill (C.), South Bristol.
Mr. James Kenyon (C.), Bury.
Mr. John C. Macdona (C), Rotherhithe.
Mr. James M'Killop (C.), Stirlingshire.
Mr. J. A. Pease (L), Northumberland (Tyneside).
Mr. H. F. Pollock (L.U.), Lincolnshire (Spalding).
Mr. Harold J. Reckitt (L.), Lincolnshire (Brigg).
Mr. J. Compton Rickett (L.), Scarborough.
Sir J. Benjamin Stone (C.), Birmingham, E.
Mr. Jasper Tully (N.), South Leitrim.
Mr. Alex. Ure (L), Linlithgow.

NOTES ON AMERICAN CHEMICAL TRADE.

A STRIKE among some of the skilled employés has occurred at the Wyandotte works, but the latter are still running much the same. The strike has not affected the output of soda ash in any way. The management does not anticipate any difficulty in replacing the strikers. The caustic soda plant keeps well employed, giving an average output. The No. 1 plant is kept busy full time, and without any charge to speak of. The carbonate of soda and pure refined bicarbonate of soda plants are passing through the usual vicissitudes of new plants in Wyandotte, and changes in the technical management are looked for in the near future.

The Pennsylvania Salt Manufacturing Company has not made any move in the district as yet, with the exception of what has been heretofore noted.

The United Alkali Company has not been very much in evidence for some short time, and real estate dealers have not had much opportunity to boom their property in the salt district.

The Detroit Salt Company is keeping the Carter salt block running, as well as its own, while the Tecumseh Salt Company keeps well employed. Altogether the output of salt in Wayne County is rapidly increasing, the January total surpassing all records.

No changes are noted at the Solvay Process Company's Delray works, the output being about the same, with the exception of a crown filler plant being put in.

It is rumoured that a gentleman late of the Solvay Process Company has accepted the management of the Saltville Works, of Virginia, and we may expect a decided change in the aspect of things from this plant in the future.

* * *

The Anglo-American Finance Syndicate is endeavouring to float a new company to erect a large alkali works at Kanapolis, Kan., where the syndicate is said to own a deposit of salt, 230 feet thick, and over 3,000 acres in extent. As the plant will be 800 miles distant from any other alkali works, the promoters look for a large share of the trade west of Chicago.

* * *

As already foreshadowed, the Erie Chemical Works have been reorganized with F. H. Kalbfleisch, of New York, as president, R. E. Clements, vice-president, and Henry Beckman, secretary and treasurer, both of Erie. The works will be put in complete order at once for the manufacture of a general line of chemicals, for which the Franklin H. Kalbfleisch Company, of New York city, will be the selling agents.

* * *

The addition to the plant of the Navassa Guano Company at Wilmington, N.C., has recently been completed at a cost of £6,000. The plant's capacity has thus been increased by 12,000 tons, making its present output 55,000 tons of fertilizer per diem.

* * *

According to a despatch from Santiago, the Ascotan Borax Works in Chile have been sold to an English company for £90,000.

* * *

The Bennington Chemical and Soap Company has recently been organized at Troy, N Y., with a capital of £4,000. Directors: Irwin M. Shelters, Nelson W. Gower, J. H. Savery, John Nash, and J. H. Shaughnessy.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Metallic Carbides. C. Diesler and F. Dieckmann. 4,861. February 28.

Manufacture of Metallic Carbides. C. Diesler and F. Dieckmann. 4,862. February 28.

Manufacture of Metallic Carbides. C. Diesler and F. Dieckmann. 4,863. February 28.

Manufacture of Calcium Carbide. G. Bower. 4,806. February 28.

Separating Tannic Acid from Tannin in an Available Form. B. Crowther and B. Crowther, junr. 4,873. February 22.

Zinc from Slags, etc. H. E. Fry and R. Addie. 4,911. February 28.

Manufacture of Soap. W. P. Thompson. 4,916. February 28

Improved Chemical Product. E. Calliat. 4,927. February 28.

Feeding Sewage to Bacteriological Filters. J. C. Haller. 4,958. March 1.

Bacteriological Treatment of Sewage. W. D Scott-Moncrieff. 4,994. March 1.

Producing Salts of Metals and Alkaline Earths. L. O. Helmers. 5,004. March 1.

Manufacture of Nitro-phosphates. H. H. Lake. 5,009. March 1.

Boiler Disincrustant. F. Glenfield. 5,017. March 1.

Drying Gypsum. H. K. Bomber. 5,038. March 1.

Preservative and Antifouling Composition. C. Williams. 5,080. March 2.

Waterproof, Acidproof, and Insulating Composition. C. J. Grist. 5,162. March 2.

Filtering Apparatus. T. F. Seitz. 5,221. March 3.

Aerating and Sterilizing Filters P. H. Palmer and F. Candy. 5,242. March 3.

Acid and Waterproof Composition. W. H. Akester. 5,271. March 3.

Explosives. A. Luck and C. F. Cross. 5,286. March 3.

Process and Apparatus for the Manufacture of Chlorine. P. Naef. 5,293. March 3.

Manufacture of Oil Cakes. J. Kraus and E. Debo. 5,318. March 4.

Treating Sulphide Ores. J. Baxeres de Alzugaray. 5,347. March 4.

Smoke Consuming. J. W. Meek. 5,354. March 4.

Purifying Coal, etc., Gases. H. Kirkham. 5,407. March 5.

Extracting Acetic Acid from Liquids containing it. W. Coleman. 5,481. March 5.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

An Improved method of and Apparatus for the Production of Calcium Carbide, applicable also to other Purposes. H. Maxim, Thurlow Lodge, 377, Norwood-road, London, S.E. Eng Pat. 2,894. Feb. 3, 1897.

The chief advantage of the apparatus is that the materials are first heated by fuel gas, and electrical energy only used for the immediate formation of the carbide. A vertical retort, ending at the bottom in an electric hearth, is fitted with the mixture of lime and coke, hot air being passed through tuyeres into the bottom of the retort just above the level of the hearth. The air super-heater is heated by producer gas, and if so desired some of this gas may be burnt with air in a jacket surrounding the retort, thus drying and heating the whole contents externally, as well as raising the materials nearly to fusion point at the tuyeres before passing to the electric furnace. The retort and heating chamber are both lined with magnesia. There are six figures, showing the complete plant and several methods of constructing the electric hearth.

An Improved Method of and Apparatus for Bleaching Linseed Oil. R. W. English, 963, Washington-street, Buffalo, Erie, U.S.A. Eng. Pat., 9,799. April 17, 1897.

Advantage is taken of the fact that linseed oil, freed from its impurities by settling, etc., can be bleached by being raised to 600° F. In the course of its treatment the oil first passes through a tank, in which it is heated by a steam coil. It then passes to the bottom of the bleaching tank, which is heated to 600° F. by a furnace. One or two devices for spreading or spraying the oil over the bottom of the bleaching tank are described. The oil gradually accumulates in the tank, and escapes by an overflow pipe into a cooling coil. The advantage of thus suddenly cooling the oil is that any oxidation or thickening is prevented. It is desirable to heat the oil by the steam coil to about 300° F. There are three figures.

New Formic Aldehyde Compounds, and Processes for the Preparation of the same. H. Oppermann and R. Goehde, both of 12, Leipziger-Platz, Berlin. Eng. Pat., 6,653. March 13, 1897.

The formic aldehyde can be mixed with sugar, forming a compound which is stable and of a syrupy nature. The syrup can be evaporated to dryness at 50° to 60° C. By the addition of haloid compounds of potassium, sodium, and ammonium the stability is increased, without diminishing the solubility in water. The material so obtained can be evaporated to dryness at 70—80° C. The compounds formed are valuable for therapeutical purposes.

Bleaching Soap. L. Grote, 84b, East India Dock-road, Poplar-road, London, E. Eng. Pat., 14,241. June 11, 1897.

A soft soap capable of bleaching linen is made from cocoa-nut oil, potash lye, silicate of soda, calcined soda, salt, and a suitable perfume, the essential feature being that a certain amount of magnesium chloride solution is added to the water used in preparing the soap, prior to commencing the saponification. A method for making a hard household soap by the cold process is also described.

IMPORTS AND EXPORTS FOR FEBRUARY.

THE Board of Trade returns for last month are not very satisfactory. The *imports* of chemicals and dyes were less, but so were the *exports* of alkali. Chemical manures were less in bulk but higher in value. Copper sulphate shows a falling off.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

Articles.		Quantities. 1897.	1898.
Margarine	Cwt.	83,546	72,694
Copper Ore and Regulus	Tons.	11,419	9,051
Pyrites	,,	54,671	48,482
Tin	Cwt.	27,938	38,646
Alkali	,,	13,775	14,154
Brimstone	,,	40,392	25,050
Dyes, Coal Tar	£.	63,351	57,524
Saltpetre	Cwt.	29,706	10,220
Petroleum	Gall.	17,663,525	23,804,310
Turpentine	Cwt.	75,539	3,996
Guano	Tons.	725	2,105
Nitrate of Soda	,,	9,561	6,139
Paraffin	Cwt.	68,874	97,256
Rosin	,,	291,729	109,837
Tallow and Stearine	,,	78,129	89,119
Oil Seed Cake	Tons.	23,709	34,227
Wood Pulp	,,	24,629	27,982

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.		Quantities. 1897.	1898
Alkali	Cwt.	329,668	284,113
Cement	Tons.	29,150	27,904
Coal and Coke	,,	2,340,257	2,518,751
Copper, all kinds	Cwt.	61,800	57,292
Iron and Steel	Tons.	261,930	230,468
Chemical Manures	,,	34,207	31,115
Oils, seed	,,	5,549	4,036
Salt	,,	34,972	57,899

THE MERSEY SALT SHIPMENTS.—British North American and Australasia took very small quantities in February, but shipments to New Orleans, Africa, and the Continent of Europe have been fairly active. Consignments to Calcutta have also been heavier than of late years, so that the total for the month is much better than in February of last year. The figures for the past month show several large increases and a few decreases. These latter are the shipments to British North America, Central and South America, and to Australasia, the last named showing the most pronounced decline—from 1,953 tons in February, 1896, to 656 tons last month. The increases are—to Asia 20,713 tons, against 6,049 tons in February of last year; the U. States 13,453 tons, compared with 11,248 tons; Africa 4,542 tons, against 2,660 tons; the rest of Europe 4,649 tons, compared with 2,095 tons; and West Indies 300 tons, compared with 83 tons. The previous returns this year, generally speaking, show as great an advance in the total shipments. The total quantity of salt shipped from the Mersey in February was 48,807 tons, against 30,137 tons in February, 1896. Of this total 43,608 tons (against 26,638 tons) were from Liverpool, and 5,199 tons (against 3,499 tons) from Runcorn and Weston. The previous shipments this year were 44,472 tons, against 31,287 tons in the corresponding period of last year. These included 41,317 tons (against 28,313 tons) from Liverpool, and 3,155 tons (against 2,974 tons) from Runcorn and Weston.

Correspondence.

***We do not hold ourselves responsible for the opinions expressed by our correspondents.*

DISCREPANCIES IN SUMAC ANALYSIS.

(To the Editor of the Chemical Trade Journal.)

Sir,—It seems to me that Mr. J. A. Wilson, in his letter to you published on page 191, is unintentionally inconsistent when he writes that he hopes Mr. J. T. Wood does not claim as his, the discovery of the discrepancies between the results obtained by the hide powder method of estimating tannin and that of Lowenthal, and then goes on to say "Some of our professors might give *cheap* organic research a rest, and try their hands in this particular field."

It is obvious that the more frequently these neglected subjects requiring further research are brought prominently forward, the greater will be the probability of their being taken in hand by those who have the necessary time and ability to investigate them.

In addressing you I am, however, chiefly actuated by the desire to see no slur cast on Mr. Wood, who would appear to be the last person to knowingly claim as his the discovery of another, and to whom, also, the Society of Chemical Industry is indebted for the communication of valuable original work.—Yours, etc.,

Derby, March 12th, 1898. F. J. R. Carulla.

THE DAVY-FARADAY LABORATORY.

A CORRESPONDENT writing under the initials M.R I., makes the following communication to *The Times*:—In *The Times* of last Thursday week a paragraph appeared in a conspicuous position in the Court News column, stating that, at a dinner of the Salt Chamber of Commerce held at Northwich on the previous night, "the president made a presentation of a solid silver casket containing an illuminated address to Dr. Ludwig Mond in celebration of his gift of the Davy-Faraday Institution to the nation." As this statement is one of many that appear from time to time, at once indicating and tending to perpetuate a gravely mistaken impression in the public mind, I trust you will allow me to set forth the actual facts as briefly as possible.

Mr. Mond's original offer to the managers of the Royal Institution was one of great liberality, but was qualified by some restrictions, the full meaning of which was perhaps not fully grasped in the enthusiasm of the moment. It was to the effect that Mr. Mond would buy and fit up the premises next door, would pay £1,700. a year for maintenance during his life, and would make provision for a permanent income of that amount after the death of himself and his wife. This was roughly capitalised at £100,000., and this figure has ever since represented Mr. Mond's benefaction in the mind of the public, certain very important reservations being left entirely out of sight. In this way Mr. Mond hoped to carry out an idea which had been reluctantly abandoned by Faraday, on the ground that the Royal Institution had neither accommodation nor funds for extending its operations by setting up a school of science. This offer, handsome as it was from the point of view of the donor, involved the managers of the Royal Institution in responsibilities fully commensurate with any advantages they could hope to gain; it involved their credit in the success of a novel experiment; and it secured for the new laboratory gratuitous scientific direction of the highest character. The offer, however, was accepted without hesitation, and Mr. Mond received much laudation—nowhere more generously than in your own columns – for the munificence of his gift to science.

The public, naturally, do not go much into details, and, when the Davy-Faraday Laboratory was at last opened, no doubt it was generally supposed that the original offer, as popularly conceived, had been formally carried into effect. This, however, is not the case. The actual constitution of the laboratory differs rather widely from that generally ascribed to it. By the deed of gift the premises, No. 20, Albemarle-street, with the fittings, furniture, and apparatus they contain, are conveyed to the Royal Institution upon trust for laboratory purposes. These premises cost £23,000. or thereabouts, and other £15,000. appear to have been spent in converting them from the uses of a dwelling-house to those of a laboratory and in providing the necessary equipment. As they stand, therefore, they represent £38,000., leaving a balance of £62,000. for endowment. The income from that sum is about £1,700. a year, which, after providing for rates, taxes, repairs, renewals, and general maintenance, does not leave a very great amount for scientific purposes. But the main point is that this sum of £62,000. has not been conveyed, like the building, to the managers of Royal Institution. The exact state of the case cannot be better shown than by the two material clauses in the deed of gift, which I here reproduce—:

"And the said Ludwig Mond doth hereby covenant with the Royal Institution that he, the said Ludwig Mond, or his heirs, executors, or administrators, will, within 30 years after the date of these presents, pay to the Royal Institution the sum of £62,000., and in the meantime will pay to the Royal Institution interest for the same, or for the unpaid part thereof for the time being, at the rate of two pounds fifteen shillings per cent. per annum, as from January 1, 1896, by equal half-yearly payments, on January 1 and July 1 in every year, and will make the first of such half-yearly payments on July 1, 1896, in respect of the half-year ending on that day.

"Provided always, and it is hereby agreed and declared, that default shall be made for a period of six calendar months in payment of any interest hereinbefore covenanted to be paid, then and in such case, and unless the said sum of £62,000., or so much thereof as shall for the time being remain unpaid, shall be paid to the Royal Institution within a further period of twelve calendar months, it shall be lawful for the Royal Institution, upon or after the expiration of the last-mentioned period, by deed under their common seal, to release the said Ludwig Mond, his heirs, executors, and administrators, from the payment of the said sum of £62,000., or so much thereof as shall for the time being remain unpaid, and of any interest thereon, and from the covenants in relation thereto hereinbefore contained, and from and after the execution of such release the trusts hereinbefore declared with respect to the laboratory and the endowment fund thereof, and the yearly income arising therefrom, shall cease and determine, and the whole of the said messuage, No. 20, Albemarle-street, together with the furniture, apparatus, appliances, and other chattels then in or about the same, and so much (if any) of the said sum of £62,000 as shall have been already paid and the investments thereof, and so much (if any) of the interest already paid in respect thereof as shall not have been applied in manner aforesaid, and the investments (if any) of such unapplied interest shall thenceforth be held upon trust for the general purposes of the Royal Institution as defined in the said charter and Act of Parliament."

I am not lawyer enough to say whether under this deed of gift the managers of the Royal Institution in the year 1926 would be able to enforce payment of this £62,000. by Mr. Mond or his representatives. My own impression is that the legal difficulties would be very great. In any event, it is clearly contemplated by the donor that he shall retain power to revoke at any time this portion of his gift, by the simple process of ceasing to pay the half-yearly instalments of interest. After three such payments had been withheld, the Royal Institution, being for a year and a half compelled to maintain the Davy-Faraday Laboratory out of its own resources, will be enabled to deliver itself from an intolerable burden by formally releasing Mr. Mond or his representatives from the covenants contained in the clause first quoted. It will then find itself £2,500. out of pocket, and in possession of a freehold house presumably worth £23,000., but requiring an expenditure of £8,000. or £10,000. to reconvert it to ordinary uses. Such a conversion would be imperative because the Royal Institution has no funds to carry on the Davy-Faraday Laboratory without endowment, or even to keep the building in a non-paying condition. It may be noted here also that the gift, whatever it be worth, is not a "gift to the nation" in any sense. While the laboratory goes on it must be equally open to all the world, and, as follows from these figures, the net residue is not great in case it stops. Mr. Mond's annual payments only suffice to meet expenditure imposed by himself, and may be stopped at any moment. They do not suffice to pay for supreme scientific direction, which is given gratuitously by the professors of the Royal Institution; but, on the other hand, the Royal Institution enjoys the present benefit of a certain amount of accommodation for its own purposes in the adjoining building.

I do not address you on this question from any desire to detract from the reputation enjoyed by Mr. Mond. However much the popular estimation of what he has done may exceed that which is justly due to his sacrifices, he is perfectly welcome to all the credit he can command. I wrote solely because the misconceptions prevalent upon this matter are directly injurious to the Royal Institution. That Institution has been existence for very close upon a century, and during that long period it has been conspicuously successful in promoting the advancement of science. But it has more than once been in dire financial straits, and to-day, when its services are as great and as necessary as at any former period, it is still dependent upon the support and contributions of the friends of science for the means of carrying on work not remunerative to itself but of great value to the nation. I need not point out how inimical to the interests of an institution so situated is a general belief that it possesses wealth which has not fallen to its share, or has actually received a benefaction which, as I have shown, is contingent and precarious; which can in no event add much to its resources; and which at present, while adding to the cares and responsibilities of management, does not increase its free resources by a single sixpence.

Reports of Companies.

LEVER BROTHERS, LIMITED.

THE fourth annual general meeting of the shareholders of this company was held in the Cannon-street Hotel recently, Mr. W. H. Lever presiding. The other directors present were Messrs. P. J. Winser, Martin Harvey, W. Owen, W. Y. Robinson, and R. Barrie.

The Chairman, in proposing the adoption of the report and balance sheet, which has already appeared in the *Journal*, referred in detail to the accounts. He pointed out that the reserve fund had been further increased by the sum of £35,000., making it £150,000., and seeing that the company had only been in existence four years, he thought that that would be satisfactory to the shareholders. The freehold works and buildings had increased by £110,000. and he would call special attention to the great value of the company's property at Port Sunlight, where, in addition to the ordinary soapmakers' plant, they had one of the largest and most complete printing establishments in the kingdom. At Port Sunlight during last year they had increased their land by 35½ acres, and the new houses built and building were 136 in number. The company had also completed their oil mill at Sydney, which was now a very valuable property, and they had also five acres of freehold land in Sydney harbour. An oil refinery had been added to their oil mill at Vicksburg, which would be a great benefit to that branch of the business, and the plant for a cotton-seed oil mill had been completed at Port Sunlight. He asserted that the company had now an oil mill for crushing cotton-seed which was second to none in the world. (Hear, hear). The directors believe that at no time in the history of the company had they made better use of the shareholders' money than they had during the last six months. They had made substantial additions which increased the capabilities of their output, and would, they fully believed, be the means of producing excellent results for future balance sheets. (Hear, hear.) Apart from the increase in plant, he had pleasure in stating that the increase in the turnover of the business during 1897 was greater than in any previous year. There had been a larger turnover in 1896 than in any previous year, but 1897 would show an even greater increase than that. (Hear, hear.) A much larger amount had also been spent in advertising, and they believed that that having been done they might view the future of the business as being on a very satisfactory basis. There was a general impression that Lever Brothers, Limited, were simply laundry soap makers, and though he was not going to say a word against the soap business, and had a very high opinion of it, he would like to impress upon the shareholders the fact that the business was on a much more substantial basis than it would be if they were merely manufacturers of soap. He would point out that apart from the manufacture of laundry soaps, the firm carried out eight distinct businesses, every one of which was a foundation upon which, in the directors' opinion, the laundry business ought to be built. First, there was the oil mill at Vicksburg, the cotton seed being got from the cotton planters near the Mississippi, and conveyed on that river to the mill, where it was converted into cotton seed oil and cake. The advantage which the simplicity of this process gave the firm might be understood from the fact that during the whole of 1896 not a single barrel of that oil was made into soap by Lever Brothers, and that as a matter of fact they were able to market it—the quality being of a very high grade—for purposes other than soap making, and very largely for margarine making. Consequently, they were able to make a double profit, first as seed crushers, and second as oil merchants. In the second place, they had a large oil mill at Sydney (New South Wales), and were their own buyers throughout the South Sea Islands, where they bought the copra, conveyed it to Sydney, and expressed what was known as cocoanut oil. This latter was then shipped to Port Sunlight, and the business in question was a very important feature, because the firm possessed the only oil mill concern in the world as far as he (Mr. Lever) knew south of the Equator. Therefore they were able to avail themselves of all the benefits of that large market of copra at the nearest point to the source of supply. Their third business was the oil mill at Port Sunlight, which was one of the best equipped mills in the kingdom. Barges would be able to come into the company's own docks, and the cotton-seed would be unloaded right into the mill without being handled by manual labour in even the smallest degree. Everything was arranged automatically, elevators raising the seed into bins, and it would then pass through the various processes, and the handling by manual labour reduced to a minimum. The fourth business was that of tallow merchants at Sydney, where they attended the Sydney tallow markets, and were able to buy tallow on a merchant's footing, and ship it to Port Sunlight. For the fifth business they were printers, and he had been told by expert printers that their establishment at Port Sunlight was one of the largest in the kingdom. At the present time this was being added to by a large bookbinding establishment, for of bound books alone the firm issued annually no less than six million copies. Then the firm causticised their own soda ash and converted it into alkali, this being the sixth business, whilst their seventh was that of glycerine refiners which was on a very large scale, and indeed he could say that if they sold all their soap to-morrow for less than cost there would be enough profit on the business of glycerine making to pay the preference shareholders their dividend. The eighth business, and one which they had only just established, was that of toilet soap makers, and it was hoped that this would be ultimately quite as large in proportion as the business of laundry soap makers. There were some samples of the firm's new toilet soap on the table, and he invited criticism upon it, for the article they were now about to put on the market at various prices was, they claimed, the highest quality it was possible to produce. As regarded fresh developments, the company had commenced the erection of soap works in Switzerland. They were not about to make any great plunge or take any step ahead into the dark. The directors believed that what they were doing in Switzerland was right, but he would point out that the amount of money which would be taken in this and other developments would only be such that the ordinary shareholders, as ordinary shareholders, feel that the business might safely undertake without in any way imperilling the position of the preference shareholders. The reasons for these works in Switzerland were that the amount of trade the company did in that country was a very good one, and the harassments they were continually receiving from the Swiss Government in the way of obstruction and tariffs—but mainly obstruction—in carrying on the business, made the directors believe that with works in the country they would certainly be on a level with the other Swiss makers, and that was the only point the company sought. He would, however, impress upon the preference shareholders that whatever risk there would be would fall on the ordinary shareholders. The amount of money in the development was very small, and no more than, even if it did not succeed, they could afford to write out of any three months' profits, and still leave a preference shareholder untouched. (Hear, hear.) There were various other possible developments he would like to speak to the shareholders about, but he believed that it was not wise to say much about a thing until it had been done. (Laughter.) He would, however, say that if they did want further capital they would feel that, the business having answered so well in the past, and the profits having responded to the increase of capital which was put in two years ago, this would influence the directors in deciding their course of action. The directors believed they had a progressive business, capable of any amount of development, and they also believed that in the interest of the shareholders it was their duty to develop it, and that would be the point which they as directors would steadily keep in view whatever they did. With regard to the increase of the dividend of the ordinary shares by 2½ per cent., speaking as one ordinary shareholder—and there were only three of them—he would frankly say that they thought that the ordinary shareholders did deserve a little more this time. (Hear.) Since the business was converted the ordinary shareholders had been a matter of £50,000. a year poorer than before it was converted, simply because though the profits were very much greater they had determined to do several things which had not before been done with the money. One of these was increasing the customers' bonus, and the other was increasing the reserve fund, and all of this came out of the ordinary shareholders' pockets, so that as a matter of fact the ordinary shareholders had received for the last four years nearly £50,000. a year less than when the business was a private company. But the interests of the ordinary shareholders were so locked up in the success of the business that it was of much more importance to them that the concern should be on a thoroughly sound basis. It might be asked whether all this development of the business was sound policy? Well, the directors believed it was, and that the broader the basis the more substantial the business would be. In illustration, Mr. Lever reminded the shareholders of the cautious answer of the Scotch clergyman who was asked by a parishioner whether he thought it would help him in the next world if he presented the parish with a kirk. "Well," replied the minister, "I can no exactly tell, but I think it's well worth trying."

Mr. Harvey, in seconding the motion, said that the rate of progress had been more than continued during the present year.

The motion was then unanimously adopted.

Mr. W. Owen was re-elected a director, and Messrs. Cooper Brothers were re-appointed auditors.

It was agreed to give the directors £2,000. as remuneration, the Chairman remarking that next year that sum would be increased, as the board had been made larger.

The Chairman moved, Mr. Barrie seconded, and it was unanimously adopted, that the sum of £2,000. be and it is hereby placed at the disposal of the directors for their services during the year 1897, and that the payment of £14,000. to a former director is approved.

In proposing a vote of thanks to the staff, Mr. Lever said there was no resolution which gave him more pleasure to propose. They had always endeavoured when anyone had shown ability to advance him to an important position, and a positive proof of that was afforded by the presence on the board of directors of Messrs. Wolfendale, Robinson,

and Barrie, three gentlemen who had been on the staff, and of whose services to the concern he could not speak too highly. This was, however, the key to the organisation of the company. They had no outside directors, and though he did not assert that that position was a source of strength, he did assert that it was not a source of weakness, for he considered that promotion to the board of directors was the most fitting and appropriate manner of recognising that ability, zeal, and loyalty which he was glad to say was displayed by all their staff. (Hear, hear.)

The Secretary (Mr. Kirkby) having responded for the Port Sunlight staff, and Mr. Goodall for the London officials, the proceedings terminated.

GERARD BROS., LTD.

The first annual meeting of the shareholders of Gerard Bros., Ltd., soap manufacturers, Basford, Nottingham, was held on Wednesday at the Albert Hotel, Derby-road. Mr. T. B. Gerard (chairman of directors) presided, and he was supported by Messrs. T. A. Gerard, J. B. Gerard, and J. Sadler (directors), there being a good attendance of shareholders.

The Chairman said the works' extensions were now practically completed, and the means of production trebled. Moreover, considerable additions to new buildings could be made at comparatively small cost, a large piece of land having been acquired for further extensions. Work had been carried on under great difficulties New buildings and additional machinery had to be erected while the ordinary work was in progress. In spite of this they were able to declare a dividend of 6 per cent. for the year. Considerable expense had been incurred in opening up new ground in anticipation of the largely increased capacity of the new works, and as a result the past two months had shown a considerable increase over the same period last year. They were fully prepared to meet all competition. Now that the increased capital had begun to be remunerative, the directors looked forward with great confidence to the future. The report and balance sheet were unanimously adopted.

The retiring director, Mr. T. B. Gerard, was re-elected, and Messrs. Derbyshire Bros. also re-elected accountants to the company.

The meeting then terminated with a unanimous vote of thanks to the directors and staff.

BORACIC ACID IN PROVISIONS.

MR OTTO HEHNER, F.I.C., writes at some length to an evening contemporary in reply to a letter by Mr. Giles, secretary to the Grocers' Federation, deprecating discussion of the boracic acid question "when the subject is under the consideration of the Government and the local authorities." Mr. Hehner says:—"All antiseptics, properly so called, are illegal in Germany; and in a work now before me ('Food Legislation in Germany,' by Wurzburg) boracic acid is specially referred to as prohibited. In many other countries the use of preservatives in food is absolutely forbidden, as in Belgium, the United States, and, I think, in Denmark; while in other countries salicylic acid is prohibited. In England almost alone no regulations whatever exist on this important matter, and while no directly poisonous or palpably injurious effects can be proved as accompanying the use of the doses of antiseptics usually present, Section 3 of the Sale of Food and Drugs Act, 1875, which deals with the prohibition of the mixing of injurious ingredients with food, cannot be applied. If means not involving the use of preservatives were unknown, some excuse might exist for the employment of these chemicals, but even then with due notice to the purchaser; but since perishable articles like meat and butter can be kept indefinitely without any addition whatever in the cold stores which have been established in all important centres, the last shred of reason for the employment of chemicals has disappeared. No appreciable harm would be done to the pockets of the consumer if to-morrow the use of all antiseptics in food were prohibited. Be it understood that I do not by any means advocate so extreme a course. The English farmer would decidedly profit. While English butter more often than not is free from preservatives, French, Dutch, and Italian almost invariably contain boracic acid. If from the mode of preparation or of collection, such foreign butters cannot be sold in England free from boracic acid, then by all means put a stop to their importation, to the benefit of our own farmers and the consumers. Cleanliness in the dairy and a knowledge of the causes which induce premature decomposition obviate the apparent necessity of the use of chemicals.

The Sugar Bounties Conference.—The proposal for the assembly of an international conference upon the abolition of the sugar bounties is understood to be in a fair way of realisation. The adhesion of Great Britain is stated to have been virtually obtained, and will be officially announced shortly. It is expected that the conference will meet at the end of April.

LUNGRO SALT AS A PRESERVATIVE.

IN the manufacture of cheese and butter in Italy, as a rule, no preservative is employed but common salt, which is added to butter when exported. Some large exporters of Venetia and Lombardy, however, employ a special salt, which is found in blocks and ground for use, being obtained from the mines of Lungro (Calabria Citeriore), which, although more adapted than common salt, is said to be still inferior to the salts of Egestorff, Lüneburg, Stade, and Linden, employed abroad for foreign cheeses of a superior quality. Its chemical composition is the following:—

	Per cent.
Chloride of sodium	97·69
Sulphate of calcium	0·06
Chloride of magnesia	0·05
Chloride of calcium	0·15
Sulphate of sodium	1·40
Water	0·21
Insoluble matter	0·44

CANADIAN CORUNDUM.

WE learn through the Canadian Government Agency at Liverpool that Professor De Kalb, of the School of Mining, Kingston, has handed to the Bureau of Mines his preliminary report of the tests made of the corundum ores of North Hastings.

"The tests which have so far been made," he says, "are merely sufficient to indicate that successful concentration of the ore is feasible on a large scale." With the aid of additional machinery which will soon be erected in the laboratory of the School of Mining, he hoped that an exhaustive investigation of the problem of economical milling of corundum would be carried out, after which it is his purpose to submit a complete report. A sample of 100 lbs was crushed in a jar crusher and then in rolls until the entire product would pass a No. 4 mesh screen. This sample was then screened successively through Nos. 8, 10, 12, 16, 20, 24, 30, 40, 50, 60, 70, 80, 90, 100, 120, and 150 mesh screens and the resultant sized products were weighed, and each lot tested to ascertain the percentage of corundum and of magnetite which it contained. The quantity of corundum is relatively greater in the coarser and finer grades, while the magnetite reaches its maximum in the grades of medium fineness. This, Professor De Kalb regards as a fortunate circumstance, since it admits of a better separation of the corundum and also will yield grades of concentrates rich in magnetite which may be economically separated as a by-product.

Prof. De Kalb adduced from his experiments that the ore contained 27·94 per cent. of corundum and 4·64 per cent. of magnetite.

The experiments in practical concentration were incomplete, but enough was done to demonstrate that this work can be done economically. As an example of this the professor submitted the following data:—

"Forty-five pounds of the ore, between Nos. 12 and 16 mesh, were treated in a vertical hydraulic separator. The concentrates weighed 5·06 pounds and contained 71·56 per cent. corundum and 22 per cent. magnetite. After the elimination of the magnetite by a magnet the resultant concentrates contained 91·74 per cent. corundum. Another lot of 27 pounds of ore between Nos 30 and 40 mesh, treated in like manner, yielded 2·56 pounds of concentrates, containing 54·28 per cent. corundum and 42 per cent. magnetite. After the elimination of the magnetite the concentrates contained 93·92 per cent. corundum.

"The commercial standard of purity for corundum concentrates," says Prof. De Kalb, "requires only 80 per cent. corundum, so that it appears that this limit can be easily passed. Such highly concentrated corundum will command a correspondingly higher price in the market. Many additional tests have been made, but remain unfinished. I may, however, venture the opinion from the work done that 80 per cent. of all the corundum in the ore can be obtained in the form of concentrates averaging 90 per cent. corundum."

This report is regarded as very satisfactory. It assures the value of the corundum deposits in North Hastings.

Forthcoming Publications.—Messrs. Whittaker will publish immediately, "Alternate Currents in Practice," translated from the French of Loppe and Bouquet by F. J. Moffet, A.I.E.E., Electrical Engineer to the Colony of Lagos, West Africa; "Electrolytic Methods of Analysis," translated and adapted from the German of Dr. B. Neumann, by J. B. C. Kershaw, F.I.C.; and a volume on "Radiography," by S. Bottone, a well-known writer for amateurs upon kindred subjects. The same publishers will also issue, in conjunction with the General Electric Co., "A Popular Guide to Commercial Telephony," by M. Byng, M.I.E.E., and F. G. Bell.

EXPORTS OF ALKALI AND BLEACH

THE following returns, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries for January, 1898, as compared with January, 1897 :—

ALKALI.

Port.	1897	1898.	1897.	1898.
	Cwts.	Cwts.	£	£
Russia	3,506	6,355	1,161	2,056
Sweden and Norway	2,441	8,101	458	1,839
Germany	4,547	7,876	1,185	1,640
Holland	8,745	9,669	2,127	1,841
France	2,846	6,922	947	2,358
Spain and Canaries	27,455	26,799	10,001	9,061
Italy	13,517	18,970	3,661	5,522
United States	177,239	109,537	38,266	21,313
Australasia	9,852	17,014	2,569	5,526
British North America	4,789	6,041	1,319	1,501
Other countries	72,867	119,447	20,795	33,788
Total	327,804	336,731	82,489	86,445

BLEACHING POWDER, ETC.

Port.	1897.	1898.	1897.	1898.
	Cwts.	Cwts.	£	£
United States	63,613	63,059	20,452	17,979
Other countries	30,490	24,904	10,113	8,277
Total	94,103	87,963	30,565	26,256

THE DILUTION AND COST OF ACETYLENE.

IN connection with these points, Professor V. Lewes says:—"Feeling strongly that the only way to secure good illuminating effect, freedom from smoking, and safety when compressed for railway and tram lighting, was to find a cheap diluent which should maintain the enrichment value of the acetylene at something near the value of the gas when burnt alone, I instituted a long and exhaustive series of experiments, and not only found the reason for the failure of water-gas, hydrogen, and carbon monoxide, but also discovered that methane was the only gas which would do the work required, and further that the presence of 30 per cent. of methane when mixed with hydrogen, carbon monoxide, or water-gas, converted it into an excellent diluent, with which 10 per cent. of acetylene gave a 20-candle-power gas capable of being burnt in ordinary gas-fittings, distributed through the mains and pipes, and indeed behaving in every way like coal-gas. Further researches also showed that dilution reduced the possibility of exploding the gas *per se* well below the limit of safety, as acetylene which, under a pressure of 2 atmospheres, could be detonated at a dull red heat, when diluted had the temperature necessary to bring about explosion raised to 100°C. for each 10 per cent. of diluting gas mixed with it; so that with a mixture containing enough acetylene to make a brilliant illuminant for compression in cylinders for carriage and tram lighting, a temperature which would melt the metal cylinder would be required to cause explosion.

FUTURE OPENINGS.

"Even at the present time there are many small towns where, owing to position and other causes, coal-gas costs from 5s. to 6s. per 1,000 cubic feet; while hundreds of villages exist where the consumption would not admit of the heavy initial expense of coal-gas plant. The apparatus needed for making the diluting gas, and enriching it with acetylene, is comparatively cheap; and 10 per cent. of acetylene will give a 20 to 22-candle-gas. A carbide company starting works for villages and small towns could well afford to debit themselves with carbide at £10. a ton, which would provide 12,000 cubic feet of acetylene, and the lime needed for purification. The diluting gas can be made at 8d. per 1,000 cubic feet; but for argument it may be called 1s. Consequently, 12,000 cubic feet of acetylene and 108,000 cubic feet of the diluent would cost £15. 8s, or 2s. 7d. per 1,000 cubic feet. Adding 11d. for charges on capital, distribution, profit, etc, the 20-candle gas could be sold at 3s 6d. per 1,000 cubic feet; and though there is a big field for the pure acetylene in country-house lighting, I am inclined to think it will be the diluted gas which will offer the largest scope for speculative industry."

THE ARCHIMEDEAN CO. advise us that on and after March 26th, 1898, their new address will be 69, Leam Terrace East, Leamington.

CHEMICALS AND FERTILISERS IN ITALY.

THE use of artificial fertilisers is spreading conspicuously in Italy, and the works of the German firm of Walter and Co. are annually turning out more and more of their chemical manures, which they suit to the soil upon which they are to be used by analysing its constituents beforehand. Among their other publications is a popular catechism on the use of chemical manure worded in the simplest possible style, so that even a peasant proprietor can understand it and gain information from it. The idea is a commendable one, and may be useful to our manufacturers at home. Most works on these subjects are so elaborate that it is only technical students who can follow them, and this checks the use of chemical manures among small owners and occupiers. The chemical fertilisers are much cheaper to spread than farmyard manure, and if 25 kilos of the former are equal in fertilising power to 1 ton of farmyard manure, and only cost 11 lire 20 c., the gain in their adoption must be considerable. This is what Dr. Walter claims to do in his little catechism. The price of a load of manure is about the same, but it is doubtful if an Italian cart carries as much as a ton.

The following gives an idea of the annual output of the firm:—Sulphuric acid, 6 tons per diem, about 2,000 tons per year; muriatic acid, 350 tons; sulphate of soda, 400 tons; sulphate of iron 500 tons; nitric acid, 50 tons; super-phosphates from Algerian phosphates, 500 tons; chlorate of potash (imported), 50 tons; nitrate of soda (imported), 100 tons; sulphate of copper (imported), 150 tons; sulphate of ammonia, 100 tons; sulphur, winnowed for vineyards, 500 tons. The firm finds sulphate of copper cheaper to buy than to make, and imports it in increasing quantities.

GOLD OUTPUT IN THE RAND.

THE output from the Witwatersrand district during February, as cabled by the Chamber of Mines, of the South African Republic, amounts to 297,975 ozs., and 23,263 ozs. for the outside districts, a total of 321,238 ozs. This shows a decrease of 15,339 ozs. as compared with the previous total. No comparison with the corresponding month of 1897 can be made.

	1895.	1896.	1897.	1898.
	oz.	oz.	oz.	oz.
January	177,463	148,178	209,832	336,577
February	169,295	167,018	211,000	321,238
March	184,945	173,952	232,067	—
April	186,323	176 707	235,698	—
May	194,580	195,008	248,305	—
June	200,941	193,640	251,529	—
July	199,453	203,873	242,479	—
August	203,573	213,418	259,603	—
September	194,764	202,561	262,150	—
October	192,652	199,889	274,175	—
November	195,218	201,113	297,124	—
December	178,428	206,517	310,712	—
Total	2,277,635	2,281,874	3,034,674	657,815

ASBESTOS SILK FOR LABORATORY WORK.—The London Asbestos Co., of 101, Leadenhall-st., London, is bringing to the notice of chemists a new variety of asbestos, which, owing to the extreme fineness of its fibres, forms a silky wool-like material admirably suited for filtering chemicals. The material has been tried by a well-known chemist, who reports that it serves excellently for filtering purposes. It is a perfectly neutral material, and acids or alkalies, either strong or dilute, have no sensible action upon it. For laboratory work it is admirably suited, not being brittle like glass-wool, while it retains the finest precipitates. A very clear filtrate has been obtained from freshly precipitated barium sulphate. The price is 10s. per pound, a pound representing a great bulk owing to its lightness.

THE HOME OFFICE AND WATER GAS.—There is evidence of a movement on the part of the Home Office on the subject of water gas. A circular letter is being sent out, stating that the Secretary of State has appointed a Departmental Committee to inquire generally into the question of the manufacture and supply of water gas. It has been urged, on the one hand, that this gas constitutes such a source of danger to the community that its use should be regulated by law; while, on the other, it is contended that no serious danger arises from the use of this or similar gases containing a large proportion of carbon monoxide, and that the number of accidents that might be traced to the gas was not sufficient to warrant any interference. The Committee are asking for any information on the subject which may be thought helpful to them in their investigations.

Trade Notes.

The United Alkali Company.—The United Alkali Company's report states that the net profit last year was £213,363. The dividends on the preference shares absorb £191,174., leaving £22,189. to be carried forward. There is no dividend on the ordinary shares, as against 2 per cent. last year, with £40,000. to the reserve fund. A further sum of £50,000. has been transferred during the year to the depreciation portion of the reserve fund, making a total of £650,000. The annual meeting was in course of progress as we went to press.

Roburite Explosives Company, Limited.—The report of the directors for the year ending 31st December, 1897, says:—In presenting to the shareholders the balance sheet and accounts for the twelve months ending 31st December, 1897, the directors have to report that, though the company has to some extent recovered from the loss of business sustained during the previous two years, the net profit will not permit the payment of any dividend.

Proposed Duty on Dahomey Palm Kernels.—A report having reached the Liverpool Chamber of Commerce that the French Government were about to impose a duty of 20 francs per ton on all palm kernels declared for export from Porto Novo, *via* Lagos, the Foreign Office was written to and asked whether there was any truth in the statement A letter has been received from the Foreign Office, saying that, according to information received from Her Majesty's Ambassador at Paris, no decision has yet been come to in regard to the taxation of palm kernels exported from Dahomey through Lagos, though the matter is under consideration.

Obituary.—We regret to announce the death of *Sir Henry Bessemer*, which occurred on Tuesday evening at his residence at Denmark Hill. Sir Henry had been confined to his bed for three weeks. In the afternoon there was a notable change in his condition, and about twenty minutes past seven he passed away in the presence of his family. We are also sorry to learn that the death of *Mr. Alex. Forrest*, of the firm of Smith and Forrest, oil distillers and chemical manufacturers, of Holt Town, Manchester, took place at Bournemouth, on Wednesday, after a short illness. He was a native of Paisley, but made all his money in Manchester, and became a true type of a Manchester man.

Protection of Industrial Property.—The Committee for the Second Congress of the International Association for the Protection of Industrial Property, which is to be held in London, on June 1, 2, and 3, has been joined by Sir Henry Roscoe, F.R.S. (president of the association), Mr. Alexander Siemens (vice-president), Sir Robert Pullar, Sir Henry Trueman Wood, Mr. W. R. Bousfield, Q.C., M.P., Mr. J. Fletcher Moulton, Q.C., Mr. R W. Wallace, Q.C., Mr. J. Cutler, Q.C., Dr. L. Mond, F.R.S., Mr. L. B. Sebastian, Mr. I. Levinstein, Dr. Ernest Schuster, Mr. R. Frost, Dr. F. Clowes, Mr. Boverton Redwood, Mr. E. C. C. Stanford, Mr. A. Gordon Salamon, Mr. C. D. Abel, Mr. Edward Carpmael, Mr. G. G. M. Hardingham, Mr. H. K. Baynes, Mr. Geo. E. Davis, Mr. W. Lloyd Wise, Mr. P. M. Justice, Mr. G. B Ellis, and Mr. A. J. Boult. The Congress will discuss various questions connected with the law of patents, trade marks, designs, and unfair competition, including the use of false trade names and origin marks, with special reference to the Paris Convention of 1883, the Madrid arrangements of 1891, and the alterations and additions to them agreed upon at the Brussels Conference of December last. All information as to the Congress can be obtained from Mr. J. F. Iselin, 11, New-square, Lincoln's Inn, London, honorary secretary of the association.

Maypole Soap Co., Ltd.—At the second ordinary general meeting of the Maypole Company, Ltd, held last week, the directors were in the pleasant position of being able to report that the sales for the year ended December 31, 1897, had been nearly treble those of 1896. The preliminary expenses, amounting to £1,383., have been written off and a dividend of 7 per cent. on the preference shares and 5 per cent. on the ordinary shares declared. For a proprietary article in its first year of existence under the Joint Stock Companies Acts this is anything but a bad showing, and should materially help the negotiations for the formation of a subsidiary American company which are understood to be proceeding. The managing director, in addressing the shareholders, said the sales for the United Kingdom and Colonies for the past year were considerably in excess of the amount mentioned in our auditors' report in the prospectus. The increased demand last summer came so suddenly and unexpectedly that we were almost paralysed; our staff was working almost night and day, and, in fact, all through the summer we were always many tons of soap in arrear with our orders. In one week we sold in this country alone as much soap as we estimated in the prospectus for the whole world. Taking into consideration that it is only about two years since the first cake of Maypole Soap was put upon the market, I think we have good reason to congratulate ourselves upon the result, and I cannot help feeling proud of the fact that in spite of our youth, we now stand in the front rank amongst largely advertised proprietary articles.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are quiet at 1s. 3d. for 90's and 1s. 6d. for 50/90's. Carbolic acids keep steady at recent nominal currencies. Naphthas remain firm, solvent being in better demand. Anthracene is scarce and firm. Creosote is steady, and promises to be in short supply during the next few months.

Sulphate of ammonia is weak. The demand is quiet, and prices have suffered through the sales of dealers. Forward business is at a standstill. All Beckton quotations have been withdrawn for the time being. Nearest prompt values are—London outside makes £9. 3s. 9d, Liverpool £9. 3s. 9d., Hull £9. 1s. 3d., and Leith £9. 2s. 6d. Nitrate of soda steady.

MISCELLANEOUS CHEMICAL MARKET.

In miscellaneous chemicals a quiet tone prevails. The alkali trade is no exception, and there is an absence of any particular movement in prices. Values all round remain steady. Bleaching powder is in fair request for early shipment at £6. to £6. 5s. f.o.b., and £5. 2s. 6d. to £5. 5s., softwoods, f.o.r. Caustic soda quotations are unaltered, as follows:—f.o b. Liverpool, 77% £8. 5s.; 74% £8.; 70% £7. 7s. 6d; £6. 7s. 6d. nett, 10-ton lots and upwards. Saltcake moving freely at 18s. od. to 19s. od. per ton on rails, makers' works. Chlorates unchanged in values and fair amount of business is reported. Sulphate of copper steady at £16. 10s., f o.b. Potash, caustic and carbonate, in fair request, and prices are unaltered. Acetate of lime, brown, is rather easier for forward delivery; grey unchanged. Acetic acid in moderately good inquiry. Acetate of lead quiet. White powdered arsenic is a turn lower for spot delivery at £20. to £20. 10s, according to brand. Prussiate of potash and soda are firm at 6¼d. and 5d. per lb. respectively. Sulphate of iron is in good general request. Nitrate of soda, 7s. 6d. to 7s. 7½d. per cwt. Sulphocyanides dull. Carbolic crystals are more inquired for; liquid carbolic, 11d. to 1s. per gallon. For bichromates and oxalic acid demand is only small, and prices are slightly easier. In muriate of ammonia there is no improvement in demand or value. Aniline oil and salt are quiet but unaltered in prices. Generally, in the textile trades, demand for chemicals is far from brisk.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron: Scotch warrants closed at 46s. 4½d.; Middlesbro', 40s. 8½d. cash; and hematite, 49s. 6d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 11s. 3d. to £50. 16s. 3d. cash, and £50. 17s. 6d. to £51. 2s. 6d. three months. Tin easier: Straits closed at £64. 17s. 6d. to £65. 7s. 6d. cash, and £65. 8s. 9d. to £65. 18s. 9d. three months; Australian, £65. 12s. 6d; English ingots, £67. 10s. to £67. 15s. Lead strong: Spanish, £12. 15s. English, £12. 17s. 6d. Silesian spelter, ordinary, £18. 6s. 3d. Nickel, 1s. 2½d. Antimony, £31. to £31. 10s. Quicksilver: First hands, £7. 2s. 6d.; second hands, £7. 2s. *Copper shares* steady: Cape, 4½ to 4⅝; Copiapo, 2¼ to 2⅜; Libiola, 2¾ to 3; Mason and Barry, 3½ to 3¾; Rio Tinto, 27⅜ to 27½; Tharsis, 7 to 7¼.

GLASGOW, Wednesday.—Market steady, with a moderate business. Scotch done at 46s. 4½d. to 46s. 5d., cash; and 46s. 7½d. month; buyers, 46s. 4½d. cash; sellers, ½d. more. Cleveland, buyers, 40s. 8½d. cash; sellers, 1d. more. Cumberland hematite done at 49s. 6½d. cash, and 49s. 8½d. month; buyers, 49s. 6d. cash; sellers, 49s. 7d. Middlesbrough hematite, buyers, 51s. cash; sellers, 51s. 3d.

REPORT ON MANURE MATERIAL.

Manure manufacturers are busy, and deliveries of superphosphates, so far this season, have been exceptionally large. This augurs well for the mineral phosphate trade, and there is more disposition on the part of buyers to entertain business in the forward position.

Raisers of 77/80% Florida rock are still holding back, and it is doubtful whether under 6¼d per unit, c.i.f. to good U.K. ports, would be accepted for autumn shipment. For the Baltic fully 6½d. per unit would have to be paid. Quotations for South Carolina River rock and 58/63% Algerian remain 5¼d. and 5⅛d. per unit, respectively, for summer/autumn shipment.

For summer/autumn shipment there would probably be sellers of River Plate bones at £4. 2s. 6d. per ton, but buyers are indifferent. East Indian bone meal continues to offer at £4. 5s. per ton, spot and afloat.

Deliveries of nitrate of soda, both U.K. and Continent, continue to be satisfactory, and the market is firm, but spot price for fine quality remains 7s. 6d. per cwt.

There is good inquiry for dried blood for prompt delivery, but in the absence of supplies no fresh business is reported.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is firm and well held. The demand is moderate. Benin has been sold for April at £19. 5s. Olive is quiet but firm, with a fair inquiry. Linseed is inclined to be dull at 17s. 3d. to 17s. 6d. per cwt. for Liverpool makes, in export casks. There is nothing of importance to record concerning cottonseed, which stands at 15s. 3d. to 15s. 9d. per cwt. Castor oil is quiet, good seconds Calcutta offering at 3¼d. to 3 5/16d., and first pressure French at 3¼d. per lb. Tallow is very steady, and prices are well maintained. Resin keeps moving satisfactorily at full prices, holders being very steady. Spirits of turpentine are rather quiet, and there is only a moderate business doing at the present price, viz., 25s. 9d. per cwt. Petroleum quiet; American 5¼d. to 6½d. per gallon, and 4⅞d. for Russian refined.

CAKES.—American Western linseed on the spot are 2s. 6d. easier, owing to arrivals, but a fair inquiry was experienced at the decline, viz., £6. 5s. to £6. 10s., whilst Liverpool makes continue steady in tone, and move off to a fair extent for consumption at last prices, viz., £8. 2s. 6d. to £8. 10s. per ton, according to brand. There is a steady feeling in the market for American decorticated cotton-seed cakes, and previous prices are maintained in the moderate business passing in good to choice brand, £5. 10s. to £6. being still quoted as in quality, with a steady business doing in Liverpool makes at £6. 5s. to £6. 10s. per ton. Undecorticated Liverpool makes are in rather better request at £3. 17s. 6d. to £4. 12s. 6d., according to brand, and Egyptian on the spot are firmly held for a shade more money, a steady inquiry being experienced at £3. 18s. 9d. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 90s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The markets here show little changes of any moment. Linseed oil has become easier, and refined cotton oil very firm at about the same value recorded a week ago. Amongst the principal imports into Hull against the same a year ago are the following:—Linseed 46,764 qrs. against 71,413 qrs.; Rapeseed 17,429 qrs. against 34,517 qrs.; cottonseed 70,113 tons against 48,713 tons; cloverseed 20,756 cwts. against 15,265 cwts.; oilcake 3,860 tons against 2,248 tons; olive oil 808 tuns against 810 tuns; tar 607 barrels against 130 barrels. Linseed oil of slow sale, spot sellers 14s. 10½d.; forward, March to end of year, 15s. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil firm, spot naked, 13s. 1½d.; forward March-April 13s. 3d.; May-August 13s. 7½d. per cwt. Filtered refined £1. to £1. 5s. per ton extra. Casks £1. and ordinary barrels £1. 10s. per ton extra. Castor oil: there is very little offering on the spot, but prices remain unchanged. Turpentine 25s. 6d. to 25s. 9d. per cwt. Olive oil continues scarce, with prices nominal. Oleines continue to advance, there being a further advance of 10s per ton. Olive oil soap moves off as fast as it arrives, with prices from £16. per ton upwards. Resins from 4s. 9d. per cwt. Cod oils, £15. 10s. to £18. per ton. Yorkshire grease from £7. per ton.

CAKES.—The demand is quiet. Linseed cakes quiet: 95% pure, £8. 10s. to £8. 12s. 6d. per ton. Oil cakes (linseed), £6. 17. 6d. to £7. 2s. 6d.; Russians, £7. 10s. to £7. 12s. 6d. Cotton cakes steady in price, demand quiet: best makes, £4. to £4. 2s. 6d.; seconds, £3. 17s. 6d. to £4.; decorticated cakes, £5. 15s. to £5. 17s 6d.; meal, £5. 15s. Rape cakes: Black Sea, £4. 5s. per ton.

PAINTS.—Prices are unchanged, and these goods are in fair demand.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Mineral oils and paraffins are all unchanged at the figures as given below, but makers will very soon now be laying their heads together regarding the new position of burning oil, the annual consumptive season of which is now drawing to a close. Season's business is always conducted on the contract system at prices prearranged, and it now remains to be seen whether these prices are to undergo any change. The activity of the opposition by the foreign makers is going on increasingly. Sulphate of ammonia continues the drop, and is now to be bought from middle holders for £9. 5s. f.o.b. Leith, though makers have not as yet come so far down. The latter, however, would probably part readily at £9. 7s. 6d., those of them who have anything to offer for prompt. Sulphate of copper is quieter. Caustic soda is firmer, and saltcake rather more inquired after. Crystals and other heavy lines are slightly livelier in the shipment department.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 7s. 6d., 60/62° £6. 7s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s. to 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3⅜d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 5s. to £9. 6s. 3d. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 10s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 21,426 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue unchanged and the demand is limited. Bleaching powder is about £5. 15s. per ton. Caustic, 70% £7. 10s., and 76/77%, £8. 15s. and £9. per ton. Sulphur is scarce at £4. 15s. to £5. per ton. Soda crystals are in good demand at £2. 12s. 6d. per ton, gross weight.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 15s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 3d. per ton, f.o.b. Tees.

COALS.—The steady tone in the coal trade continues, and best steam coals are now quoted at 8s. per ton, f.o.b. prompt shipment; 8s. 6d. to 9s. for forward. Coke is again firmer locally, and for export large sales have been made for spring shipment.

New Companies.

Best and Lloyd, Ltd.—CAPITAL £50,000., in £10. shares. This company has been formed to acquire and carry on (1) the business of a manufacturer of and dealer in chandeliers and electric and gas fittings, carried on by R. H. Best at Handsworth, Staffs, as "Best and Lloyd," and (2) the business of a manufacturer of and dealer in red lead, carried on by R. H. Best at Handsworth, Staffs, as "J. and H. Lloyd," and to adopt two agreements. The subscribers to the memorandum of association are:—R. H. Best, Cambray Works, Handsworth, manufacturer; W. R. Nicholl, Northleigh, Olton, nr. Birmingham, accountant; J. Pinckston, Stowe Villa, Albert-street, Handsworth, manager; G. Vale, Lauriston, Rookery-road, Handsworth, manager; Miss E. H. Best, 23, Radnor-road, Handsworth; Miss L. H. Best, 23, Radnor-road, Handsworth; Mrs. E. M. Best, 146, Hamstead-rd., Handsworth.

John Pearce Portland Stone Co., Ltd.—CAPITAL £10,000., in £1. shares, 600 of which are founders'. This company has been formed to acquire and carry on the business of steam saw-mill proprietor, stone merchant, and quarry worker, carried on by J. Pearce at Stonecleeve, in the island of Portland, and to adopt an agreement with G. Shellabear. The subscribers to the memorandum of association are:—

G. Shellabear, 24, Washington-terrace, Plymouth, contractor; J. Pearce, Stonecleeve, Portland, quarry worker; F. K. Klein, 4, Park-road, Easton, Portland, assistant; F. Giles, Seymour-villa, Aldershot, assistant; G. G. Shellabear, 7, Stafford-terrace, Plymouth, contractor; J. Pearce, jun., Stonecleeve, Wakeham, Portland, assistant; J. W. Bickle, 11, Hobart-terrace, Plymouth, solicitor.

Manchester Zinc and Copper Co., Ltd.—Capital £25,000, in £10 shares. This company has been formed to carry on the business of a mining, smelting, metal refining and manufacturing company. The subscribers to the memorandum of association are:—N. Clegg, 91, Portland-street, Manchester, calico printer; C. A. Burghardt, 35, Fountain-street, Manchester, chemist; G. Rigg, 1, Ellesmere Grove, Eccles, Manchester, chemist; E. B. Clegg, Oldfield Brow, Altrincham, agent; S. Garrett, J.P., The Rookery, Eccles Old-road, Manchester; E. T. Broadhurst, Beechcroft, Prestwich, merchant; F. V. Williams, 91, Portland-street, Manchester, calico printer.

Russian American Oil Co., Ltd.—Capital £1,000, in £100 shares. This company has been formed with objects as fully indicated in the title.

T. B. Rowe and Co., Ltd.—Capital £70,000, in £1 shares (35,000 pref.). This company has been formed to adopt an agreement with T. Cunnington, C. J. Cross, and W. Merriman, and to manufacture, sell, and deal in soap, candles, starch, water softeners, laundry materials, tallow, glycerine, oil, etc. The subscribers to the memorandum of association are:—T. Cunnington, Ferry House, Brentford, soap manufacturer; C. J. Cross, 1, The Mall, Brentford, soap manufacturer; W. Merriman, Beaufort House, Brentford, soap manufacturer; J. R. Cunnington, 3, Grosvenor-terrace, Brentford, superintendent; F. S. Cross, 1, The Mall, Brentford, clerk; R. Merriman, 1, Grosvenor-terrace, Brentford, superintendent; G. Hall, 34, Bishopsgate-street, Within, E.C., tallow broker. Registered Office: Thames Soap Works, Brentford, Middlesex.

Gazette Notices.

PARTNERSHIP DISSOLVED.

G. Stanton & H. Sumpter, chemical manufacturers, Pritchard's-road, Hackney, N.E., under the style of Gibbs and Atkins.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 5th.

Acetic Acid—
Holland, 50 pks. Phillipps & Graves
Germany, 31 ,,
Holland, 125 A. & M. Zimmermann

Acetone—
Austria, 15 pks. Thames S. T. & L. Co., Ltd.
,, 19 drs Domeier & Co.

Alkali—
Belgium, 106 c. J. Barber & Co.
,, 1,000 Darling Brs.

Antimony Ore—
France, 1 t. H Johnson & Sons

Asbestos—
Canada, £250 Deering & Robottom
Germany, 20 Craven & Co

Barytes—
Germany, 10 pks. H. Lambert
Holland, 88 Taylor Brs.
,, 215 W. Harrison & Co.
,, 60 Wilkinson, Heywood & Co.
,, 120 J. L. Lyon & Co.
Belgium, 36 ,,
,, 198 W. Harrison & Co.
Holland, 22 F. Claydon & Co.
,, 23 J. R. Francis & Co

Benzine—
U. States, 1,054 brls. Broadbridge & Co.

Bleaching Powder—
Belgium, 62 brls. H. Wallace & Co.

Bleaching Soda—
Germany, 140 c. H. Lambert

Bone Flour—
Holland, 6 t. Hollingburst & Co.

Bone Meal—
E. Indies, 150 t. A. Hunter & Co.

Bromide of Iron—
Germany, £73 A. & M. Zimmermann

Bromine—
Germany, 3 pks. Butler's Wf., Ld.

Camphor—
Japan, 93 pks. Lewis & Peat
,, 213 R. Warner & Co.

Caoutchouc—
Straits, 57 c. Prop. Bull Wf.
Thursday Is., 2 L. & I. D. Jt Co.
Straits, 676 E. Boustead & Co.
Cape, 10 Hale & Son
Zanzibar, 5 ,,
Straits, 240 Butler's Wf., Ld.
E. Indies, 7 W. Balchin, Ld.
Zanzibar, 3 L. & I. D. Jt. Co.
Cape, 26 ,,
Madagascar, 8 Wainwright Brs.
Sydney, 35 McIlwraith, & Co.
Portugal, 182 W. M. Smith & Sons
U. States, 140 Prop. Bull Wf.
France, 15 H. Johnson & Sons

Carbolic Acid—
Germany, 50 pks. J. G. Back

Castor Oil—
France, 45 pks. F. Boehm
,, 12 cs. Beresford & Co.

Caustic Potash—
Germany, £202 J. M. Steel & Co.

Chemicals (*otherwise undescribed*)
Germany, £32 H. Lambert
,, 200 L. & I. D. Jt. Co.
Holland, 20 Hernu, Peron & Co.
,, 6 H. & J. Dutfield
,, 60 L. & I. D. Jt. Co.
Belgium, 66 T. Palmer
,, 25 John Cockerill Line
Germany, 70 Craven & Co.
,, 12 Brit. Anti-Foulg. C Co.
Holland, 208 T. H. Lee
France, 87 Mory & Co.
Belgium, 220 T. H. Lee
N Zealand, 120 L. & I. D. Jt. Co.
Germany, 93 Phillipps & Graves
,, 550 A. & M. Zimmermann

Citrate of Lime—
Italy 43 pks. B. Jacob & Sons
,, 22 Thames S. T. & L. Co., Ld.

Copper Sulphate—
U. States, 59 pks. Brandice Goldschmidt & Co.

Cream of Tartar—
France, 2 pks. H. Johnson & Sons
,, 22 B. & F. Wf. Co.
,, 2 J. W. Cook & Co.
Italy, 201 B. Jacob & Sons
Holland, 10 Kirkpatrick, Barr, & Co
France, 5 C. F. Gerhardt
,, 4 W. C. Bacon & Co.

Dyestuffs—
Aniline
Belgium, 24 pks. W. Gerson & Co
Annatto
Denmark, 1 pk. Tegner, Price & Co.
Argols
Italy, 6 pks. Fellows, Morton & Co.
,, 256 B Jacob & Sons
,, 106 Thames S. Tug & L. Co, Ld.
Cochineal
Canaries, 12 pks. Swanston & Co.
Extracts
Germany, 54 pks. J. Greig
France, 110 Bennett S. S. Co.
,, 200 T. H. Lee
Holland, 20 J. Norrenberg & Co
Canada, 200 Furness, Withy & Co.
Denmark, 2 M. D. Co.
Canada, 321 Boutcher, Mortimore & Co.
Holland, 178 Burt, Boulton & Co.
Austria, 200 Boutcher, Mortimore & Co.
,, 37 Hoare, Wilson & Co.
Gambier
Straits, 3 pks. P. & O. Co.
,, 236 Brinkmann & Co.
,, 466 W. Balchin, Ld.
Indigo
E. Indies, 25 chts. Ralli Brs.
,, 26 J. Owen
,, 15 Arbuthnot, Latham & Co.
,, 50 Ogilvy, Gillanders & Co.
,, 11 Dipnall & Co.
,, 45 J. Karpeles & Co.
,, 5 cs. Midland Railw'y Co
Holland, 1 Phillipps & Graves
Belgium, 4 John Cockerill Line
Holland, 5 chts Page, Son & East
E. Indies, 53 Union Ltge. Co., Ld.
,, 289 Begg, Dunlop & Co.
,, 60 R. & J. Henderson
,, 28 W. Balchin, Ld.
,, 175 P. & O. Co.
,, 199 W. J & H. Thompson
,, 26 Lewis & Peat
,, 89 80 pks. A. B. Curtis & Co.
,, 18 R. Von Glehn & Sons
,, 36 Croysdale & Co.
,, 27 Walker, Munsie & Co.
Guatemala, 51 srns. L. & I. D. Jt Co.
E. Indies, 40 chts. Parsons & Keith
,, 463 J. W. Cook & Co.,
,, 376 L. & I. D. Jt Co.
Naphthaline
Germany, 34 pks. Fleming's Oil & Chem. Co.
Saffron
Spain, 1 pk. Comptoir National
,, 1 C. Brumlen & Co.
,, 1 Richardson, Spence & Co.
Shumac
Italy, 250 pks. J. E Scott
,, 50 A. E. Piggott
,, 100 Bailey & Leetham
Tanners' Bark
Cape, 10 t. Boutcher, Mortimore & Co.
,, 32 Flack, Chandler & Co.
,, 53 J. T. Rennie, Son, & Co.
U.S. Pacific, 10 Clyde S. Co., Ld.
Belgium, 36 Lon. & Til. L. C & D Co.
,, 16 Leach & Co.
Cape, 40 A & W. Nesbitt
Valonia
Greece, 41 t. Anning & Cobb
A. Turkey. 103 Hicks, Nash, & Co.
,, 90 A. & W. Nesbitt
,, 25 Anning & Cobb
,, 23 F. Claydon & Co.

Farina—
Germany, 102 pks. Hernu, Peron & Co.
,, 157 Seaward Brs, Ld.
,, 50 R. Bennett & Co.
Belgium, 1 T. H. Lee
France, 20 B. & F. Wf. Co.
Germany, 40 M. D. Co

Glucose—
Germany, 14 pks. 120 c. J. Knill & Co.
,, 100 100 J. Barber & Co.
,, 20 160 M. D. Co.
,, 80 700 Bennett S. S. Co., Ld.
Canada, 998 948 L. & I. D. Jt. Co.
,, 400 400 Robinson Son & Co
France, 140 140 Vokins & Co.
,, 550 550 W. E. Cole
U. States, 100 100 Robinson, Son & Co.
Germany, 200 200 Trier, Meyer & Co.

Glue—
France, £76 J. Harrison
,, 18 Mory & Co
Germany, 133 H. Lambert
Belgium, 810 J. Barber & Co.
U. States 60 Taylor Brs.
Austria, 250 Steinhoff, Sons, & Co.
Germany, 76 Phillipps & Graves
,, 150 Thames S. T. & L. Co, Ltd.

Infusorial Earth—
Germany, £250 A Haacke & Co.

Litharge—
Germany, 18 pks. Fleming's Oil & Chemical Co.

Lunar Caustic—
Germany, £143 Butler's Wf., Ltd.

Manure—
Germany, 60 t. F. W. Berk & Co, Ltd.

Methyl Alcohol—
Austria, 18 dms. T. Jones & Co.

Mica—
Bengal, £25 Flageollet & Co.
,, 1,025 W. M. Smith & Sons
U. States, 90 G. Barker

Molasses—
D. Guiana, 683 brls. 1,520 c. R. & J. J. Kirke

Naphtha—
U. States, 3,232 brls. Broadbridge & Co.

Nitre—
Chili, 15,663 bgs. W. Montgomery & Co.

Ochre—
Holland, 22 pks. Phillipps & Graves

Oxalic Acid—
Holland, 15 pks. R. W. Greeff & Co.

Phosphate of Lime—
France, 203 t J. Harrison

Phosphate Rock—
W. Indies, 396 t. G. M. Bauer
U. States, 258 A Hunter & Co

Pitch—
France, 48 cks. Poth Hille & Co.
U. States, 11 cs. Lanham & Moore

Plumbago—
Ceylon, 72 brls. H. J. Perlbach & Co.
Germany, 102 cks. B. Gallaway
E. Indies, 148 brls. T. W. Beard
,, 180 J. Threlder, Son, & Co.
Ceylon, 160 Orient Co., Ltd.
,, 204 T. W. Beard

Potassium Bicarbonate—
Holland, £67 A. & M Zimmermann

Potassium Binoxalate—
Holland, £45 R. W. Greeff & Co.

Potassium Chloride—
Germany, 200 pks. Bessler, Waechter, & Co.
" 500 Anglo-Contl. Guano Works

Potassium Oxymuriate—
Sweden, 100 pks G. Boor & Co.

Potassium Sulphate—
Germany, 100 pks. Bessler, Waechter, & Co.

Pyrites—
Portugal, 1,730 t. Mason & Barry

Rosin—
Holland, 2 cks. J. Owen

Saltpetre—
Bengal, 646 bgs. Perkins & Homer
Germany, 100 cks. Lucas & Spencer's Wf.
" 13 L. & I. D. Jt. Co.

Slag—
Belgium, 50 t. Lawes Chemical Manure Co.

Sodium Carbonate—
France, 1 c J. Harrison

Sodium Prussiate—
Belgium, 21 brls. Blagden, Waugh, & Co.

Starch—
Belgium, 480 pks. F. Claydon & Co.
France, 8 Beck & Pollitzer
Belgium, 150 Leach & Co.
" 80 Taylor Brs.
" 186 Becker & Wagner
U. States 3,038 Union L. Co., Ltd.
Germany, 40 pks. Phillipps & Graves
Belgium, 186 Sawer, Sons, & Co
Holland, 1,300 Little & Johnston
" 75 Phillipps & Graves
Austria, 20 J. A. Ferguson
Germany, 3,410 Horne & Co.
Belgium, 106 T. H. Lee
" 240 Seaward Brs.
U. States, 500 R. Bennett & Co.

Stearine—
Belgium, 63 cks. H. Hill & Sons
France, 100 bgs. "

Sulphur—
Italy, 30 t. J. Kitchin, Ltd.
" 10 F. Smith
" 10 Elkan & Co.
" 20 G. Boor & Co.
" 100 A. Hunter & Co.
" 10 J. Puddy & Co.
" 150 Bailey & Leetham, Ltd.

Talc—
France, £40 Blackwell & Co.

Tar—
Germany, 200 brls. W. Beard & Son

Tartaric Acid—
Italy, 40 pks. B. & F. Wf. Co.

Tartars—
Italy, 23 pks. Howards & Son

Ultramarine—
Germany, 26 pks. J. Kitchin, Ltd.

Varnish—
Belgium, 2 pks. Leach & Co.
U. States, 12 Wilson & Furness Co.
France, 18 Suter, Hartman, & Co.

Waste Salt—
Germany, 60 t. F. W. Berk & Co., Ltd.

White Lead—
France, 17 cks. J. Watt & Son
Belgium, 49 J. L. Lyon & Co.
Holland, 10 M. Ashby, Ltd.
Belgium, 67 T. & W. Farmiloe, Ltd.
Holland, 60 D. Storer & Sons

Wood Pulp—
Sweden, 254 pks. Tough & Henderson
U. States, 33 Henderson, Craig, & Co.
Norway, 206 W. E. Bott & Co.
" 40 Becker & Co.
Sweden, 254 H. Raby & Mather
Germany, 100 Christophersen, Andrews, & Co.
Denmark, 16 Johnsen & Jorgensen
Norway, 162 M. D. Co.
" 4,833 London Paper Mills Co.
" 812 W. G. Taylor & Co.
Holland, 51 " M. D. Co.
Sweden, 450 P. Heydemann
Belgium, 1,528

Zinc Oxide—
Germany, 100 pks. M. Ashby, Ltd.
Holland, 65 "
" 100 Prpts. Dowgate Dk.
" 500 Soundy & Sons
Germany, 43 J. Matton

LIVERPOOL.

Week ending March 3rd.

Acetate of Lime—
New York, 1,559 bgs.

Alum—
Antwerp, 20 cks.

Barytes—
Rotterdam, 21 cks. 150 bgs.

Benzine—
New York, 1,054 brls.

Bone Ash—
M. Video, 1 bg.

Bone Meal—
Karachi, 5,000 bgs. Ralli Brs.
" 4,700 W. & R. Graham & Co.
Rangoon, 425
Bombay, 1,500
Karachi, 5,000

Borax—
Valparaiso, 4,030 sks.
Hamburg, 1,490 bgs. Browne, Geveke & Co.

Caoutchouc—
Valparaiso, 9 bls. Kleinwort, Sons & Co.
" 109 pks. J. H. Schroder & Co.

Castor Oil—
Marseilles, 24 brls. J. J. Mack & Sons
" 6 Manchester Ship Canal Co.
" 535 20 cs.

Chemicals *(otherwise unascribed)*
Pensacola, 200 sks.
Rotterdam, 1 cs.

Colours—
Bremen, 11 pks. 33 brls. 62 tins
Rotterdam 4 cks. 5 cs.
Newport News, 186 brls.

Cottonseed Oil—
New York, 200 brls.

Cream of Tartar—
Bordeaux, 13 cks.
Oporto, 4

Dextrine—
New York, 8 bgs.

Dyestuffs—
Algarrobilla
Valparaiso, 236 sks. Schmitz & Co.
" 200 J. Caro & Co.
" 300
Argols
Bordeaux, 96 bgs.
Cochineal
Gd. Canary, 6 bgs. G. Stuart Brown
Cutch
Marseilles, 270 cs.
Rangoon, 750 bxs
Extracts
New York, 14 brls.
Fustic
Vera Cruz, 2,028 pcs. Ledward, Bibby & Co.
Myrabolams
Bombay, 1,826 bgs.
" 740 Aldridge, Salmon & Co.
" 960 D. Sassoon & Co.
" 777 W. & R. Graham & Co.
" 2,212 bgs. E. D. Sassoon & Co.
Orchella
Valparaiso, 11 bls. Schmitz & Co.
Shumac
Marseilles, 217 cs. H. Rooke
Palermo, 360 bgs.

Glucose—
Baltimore, 250 brls.
New York, 170
St. John, N.B., 200
Boston, 200

Glue—
St. Nazaire, 10 cks. 11 bls.
Marseilles, 15 cs.
Rotterdam, 10
Rouen, 68 cks. Co-op. W'sale Society, Ld.
Boston, 2 hf.-brls.

Guano—
M. Video, 1 bg.

Infusorial Earth—
Bremen, 50 bgs.
Hamburg, 123

Iron Oxide—
Hamburg, 1 cs.

Litharge—
Rotterdam, 16 cks.

Magnesium Carbonate—
Marseilles, 3 bgs.

Molasses—
Amsterdam, 67 puns.

Naphtha—
New York, 3,231 brls.

Ochre—
Marseilles, 13 cks. Birmingham Colour Co.
" 116 brls.
Rouen, 39 cks Co-op. W'sale Society, Ld.

Paint—
Boston, 12 cs.

Paraffin Scale—
Baltimore, 100 brls.
New York, 644 Thompson & Bedford
Rangoon, 162 bxs.

Phosphate—
Ghent, 400 t.

Phosphate Rock—
Brunswick, Ga., 2,150 t.

Pitch—
Marseilles, 125 brls.

Potash—
Dunkirk, 2 cks. 10 dms.
Rouen, 82 Co-op. W'sale Society, Ld.
Hamburg, 10

Pumice Stone—
Messina, 15 cs.

Pyrites—
Huelva, 1,894 t. Matheson & Co.
Fineidet, 1,100

Rosin—
Baltimore, 200 brls.

Saltpetre—
Hamburg, 6 brls. 103 kgs.
Karachi, 69 bgs.

Soap—
Marseilles, 38 cs. 175 bxs.
N. Orleans, 943 brls.
New York, 55
Boston, 1 brl. G. W. Wheatley & Co.
" 15 cs.
Naples, 300

Soapstone—
Bordeaux, 200 bgs. Geo. G. Blackwell, Sons & Co.

Starch—
Bremen, 20 cs
Hamburg, 163
Rotterdam 14
Ghent. 68 J. T. Fletcher & Co.
Antwerp, 498

Stearine—
Antwerp, 13 bgs. J. T. Fletcher & Co.
" 500

Tallow—
Baltimore, 413 tcs.
New York, 5 50 hds.
Boston, 350 brls.
Portland, Me., 75

Tartaric Acid—
Marseilles, 4 brls.
Rotterdam, 1 ck.
Palermo, 8

Treacle—
New York, 400 brls.
Boston, 50

Ultramarine—
Rotterdam, 20 cks.

Varnish—
New York, 15 brls. W. A Warren

Verdigris—
Bordeaux, 3 cks.

White Lead—
Rotterdam, 89 cks.

Wood Pulp—
Gothenburg, 23 bls. R. L. Lundgren
" 7 pks. J. Schenkenwald & Co.

Zinc Oxide—
Marseilles, 40 brls.

MANCHESTER.

Week ending March 5th.

Acetate of Lime—
Rouen, 154 bgs.

Acetic Acid—
Ghent, 15 crbys.

Aniline Colours—
Rouen, 2 cs.

Barytes—
Rotterdam, 24 cks. Wilson, Sons, & Co., Ld.
Antwerp, 150 bgs.

Chemicals *(otherwise undescribed)*
Rotterdam, 14 cks. Wilson, Sons, & Co., Ld.
Treport, 73

Chromium Acetate—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Colours—
Rotterdam, 6 bxs. Wilson, Sons, & Co., Ld.

Dextrine—
Hamburg, 100 bgs.

Dimethylamine—
Rotterdam, 2 cks Wilson, Sons, & Co., Ld.

Farina—
Hamburg, { 2 cks. 400 bgs.
Rotterdam, 2,000 Wilson, Sons, & Co., Ld.

Glucose—
New York, 100 brls.

Glue—
Rotterdam, 140 bgs. Wilson, Sons, & Co., Ld.
Rouen, { 40 22 cs. 68 cks.
Treport, 20 bls.

Indigo—
Rotterdam, 5 chts. Wilson, 3 brls. Sons, & Co., Ld.

Lead Acetate—
Rouen, 35 cks.

Limestone—
Antwerp, 4 crts. J. T. Fletcher & Co.
Ghent, 5 cs.

Ochre—
Treport, 35 cks.

Oxalic Acid—
Rotterdam, 15 cks. Wilson, Sons, & Co., Ld.

Potash—
Treport, 4 cks. 8 dms.

Potash Salts—
Antwerp, 7 cks.

Saltpetre—
Hamburg, 6 cks.

Soda—
Hamburg, 13 cks.

Soda Crystals—
Treport, 42 bgs.

Sodium Acetate—
Rotterdam, 8 cks. Wilson, Sons, & Co., Ld.
Treport, 120

Starch—
Antwerp, 10 cs.
Hamburg, 5 brls.
New York, 200 bgs.
Rotterdam, 20 224 Wilson, Sons, & Co., Ld.

Sulphuric Acid—
Rotterdam, 5 cs.

Tannic Acid—
Hamburg, 3 cks.

Tartaric Acid—
Rotterdam, 10 cks. Wilson, 6 btls. Sons, & Co., Ld.

Wood Pulp—
Fredrikshald, 1,000 bls. W. Gallagher & Sons
Gothenburg, 94

Zinc Oxide—
Antwerp, 25 brls.

Zinc White—
Rotterdam, 5 cks Wilson, Sons, & Co., Ld.

HULL.

Week ending March 5th.

Alizarine—
Rotterdam, 4 brls. W. & C. L. Ringrose

Antimony—
Hamburg, 10 cs. Wilson, Sons, & Co., Ld.

Arsenic—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.

Barytes—
Bremen, 205 bgs.
Rotterdam, 40 cks. Hutchinson & Son

Castor Oil—
Genoa, 45 cs. Wilson, Sons, & Co., Ld.
Leghorn, 5
Chemicals (*otherwise undescribed*)
Antwerp, 47 dms. Wilson, Sons, & Co., Ld.
Dunkirk, 17 cks. ,,
Hamburg, 6 ,,
Riga, 85 ,,
Cod Oil—
Aalesund, 10 brls. Wilson, Sons, & Co., Ld.
Colours—
Riga, 465 cs. Wilson, Sons, & Co., Ld.
Bremen, 4 cks. J. & T. Seddon
,, 4 Storry, Smithson, & Co.
,, 6 Blundell, Spence, & Co
Rotterdam, 1 bx. W. & C. L. Ringrose
Antwerp, 21 pks. Wilson, Sons, & Co., Ld.
Ghent, 13 cks. ,,
Stettin, 20 ,,
Marseilles, 14 cs. ,,
Copper Oxide
Amsterdam, 1 ck. W. & C. L. Ringrose
Cryolite—
Copenhagen, 1 ck. Wilson, Sons, & Co., Ld.
Dextrine—
Harlingen, 5 bgs. W. & C. L. Ringrose
Farina—
Harlingen, 850 bgs. W. & C. L. Ringrose
Ghent, 18 Wilson, Sons, & Co., Ld.
Stettin, 17 ,,
,, 100
Hamburg, 250 ,,
Gelatine—
Dunkirk, 5 cs. Wilson, Sons, & Co., Ld.
Glucose—
Rotterdam, 50 bgs. Hutchinson & Son
Hamburg, 41 cks. Wilson, Sons, & Co., Ld.
Stettin, 20 ,,
Boston, U.S.A., 300 brls.
Glue—
Rotterdam, 12 bgs. Hutchinson & Son
Rouen, 20 cks. 10 c. Rawson & 120 pks. 10 bls. Robinson
Hamburg, 20 bgs. Wilson, Sons, & Co., Ld.
Rotterdam, 4 W. & C. L. Ringrose
Dunkirk, 89 cks. Wilson, Sons, & Co., Ld.
Guano—
Hamburg, 1,337 bgs. Wilson, Sons, & Co., Ld.
Lead Nitrate—
Amsterdam, 2 cks. W. & C. L. Ringrose
Limestone—
Antwerp, 2 crts. Wilson, Sons, & Co., Ld.
Manganese Ore—
Hamburg, 1 cs.
Ochre—
Marseilles, 8 cks.
Rouen, 28 Rawson & Robinson
Phosphate—
Bona, 800 t.
Ghent, 500 bgs. Wilson, Sons, & Co., Ld.
Plumbago—
Genoa, 5 cks.
Pumice Stone—
Leghorn, 30 cs. Wilson, Sons & Co., Ld.

Saltpetre—
Hamburg, 5 cks. Wilson, Sons, & Co., Ld.
Soap—
Marseilles, 10 cs. Wilson, Sons, & Co., Ld.
,, 7 Lofthouse & Saltmer
,, 14
Soda—
Antwerp, 170 bgs. Bailey & Leetham, Ld.
Amsterdam, 100 Hutchinson & Son
Ghent, 200 Wilson, Sons, & Co., Ld.
Sodium Nitrate—
Iquique, 9,204 bgs.
Starch—
Antwerp, 60 cs. Wilson, Sons, & Co., Ld.
Ghent, 205 ,,
Rotterdam, 415 W. & C. L. Ringrose
Tallow—
Dunkirk, 202 cks. Wilson, Sons, & Co., Ld.
Treacle—
Boston, U.S.A., 152 brls. Wilson, Sons, & Co., Ld.
Ultramarine—
Rotterdam, 10 pks. Hutchinson & Son
,, 8 cks. W. & C. L. Ringrose
Waste Salt—
Hamburg, 1,020 bgs. Wilson, Sons, & Co., Ld.
White Lead—
Antwerp, 40 cks. Bailey & Leetham, Ld.
Rotterdam, 20 W. & C. L. Ringrose
Amsterdam, 33 ,,
Wood Pulp—
Christiania, 818 bls. Wilson, Sons, & Co., Ld.
Gothenburg, 221 ,,
Hamburg, 80 pks. Bailey & Leetham, Ld.

GLASGOW.

Week ending March 10th.

Ammonium Nitrate—
Rotterdam, 45 cks. J. Rankine & Son
Arachide Oil—
Rotterdam, 2 cks. J. Rankine & Son
Asbestos—
Hamburg, 8 cs.
Rotterdam, 1 bl. J. Rankine & Son
Barium Sulphate—
Antwerp, 370 bgs. 4 cks.
Barytes—
Rotterdam, 89 cks. J. Rankine
1 tube 48 brls. 45 pks. & qty. & Son
Bleaching Powder—
Rotterdam, 45 cks. J. Rankine & Son
Castor Oil—
Antwerp, 109 cks.
Marseilles, 144 brls. 21 cs.
Caustic Potash—
Dunkirk, 4 dms.
Chemicals (*otherwise undescribed*)
Christiania, 1,102 bls.
Colours—
Antwerp, 2 cks.
Rotterdam, 12 J. Rankine
85 pks. 1 cs. & Son
Cottonseed Oil—
New York, 140 brls.
Dyestuffs—
Alizarine
Rotterdam, 51 cks. J. Rankine
2 brls. & Son
Aniline
Hamburg, 18 cks. 5 cs.

Rotterdam, 23 J. Rankine
11 bxs. 17 brls. & Son
Madder
Marseilles, 4 cks.
Glucose—
New York, 150 brls.
Glue—
New York, 94 brls.
Hamburg, 100 bgs.
Rotterdam 20 J. Rankine & Son
Infusorial Earth—
Hamburg, 257 bgs.
Lead Acetate—
Hamburg, 4 cks.
Methyl Alcohol—
Hamburg, 1 cs.
Ochre—
Marseilles, 81 brls.
Phosphates—
Antwerp, 4 brls.
Potash—
Dunkirk, 8 cks.
Potassium Bromide—
Hamburg, 2 cs.
Salt—
Hamburg, 1 cs.
Saltpetre—
Hamburg, 40 cks.
Soap—
Baltimore, 24 brls.
Marseilles, 4 cs.
New York, 100
Sodium Nitrate—
Iquique, 1,940 t. A. Cross & Sons, Ld.
Sodium Sulphate—
Rotterdam, 1 ck. J. Rankine & Son
Starch—
Baltimore 100 bgs. Jas. Osborne & Co.
,, 405
Antwerp, 30 cs.
Stearine—
Antwerp, 20 bgs.
Tartaric Acid—
Marseilles, 4 brls.
Treacle—
Philadelphia, 500 brls. Waddell & Bryson
,, 350 50 hf.-brls.
New York, 100 3 cs.
Varnish—
New York, 49 brls. 6 cs.
White Lead—
Rotterdam 20 cks. J. Rankine
10 pks. & Son
Whiting—
Dieppe, 135 cks.
Wood Pulp—
Philadelphia, 899 bls.
Christiania, 1,032
Zinc Oxide—
New York, 100 brls.
Zinc White—
Rotterdam, 10 pks. J. Rankine & Son

TYNE.

Week ending March 5th.

Alum Earth—
Hamburg, 17 cks. Tyne S. S. Co.
Antimony—
Hamburg, 230 cs. Tyne S. S. Co.
Barytes—
Rotterdam, 300 bgs. Tyne S. S. Co.
Antwerp, 220 ,,
Colours—
Antwerp, 2 cks. Tyne S. S. Co.
Hamburg, { 38 1 cs. 10 dms. ,,
Limestone—
Antwerp, 1 crte. Tyne S. S. Co.

Ochre—
Baltimore, 168 brls. Fur Withy, &
Rosin—
Baltimore, 400 brls. Fur Withy, &
Soap—
Rotterdam, 9 cs. Tyne S. S
Varnish—
Antwerp, 3 brls. Tyne S. S
White Lead—
Antwerp, 14 brls. Tyne S. S.
Wood Pulp—
Christiania, 650 bls.
Zinc Oxide—
Antwerp, 20 brls. Tyne S. S.
Rotterdam, 25 cks. ,,

GOOLE.

Week ending March 2nd.

Alizarine—
Rotterdam, 87 cks. 2 cs.
Antimony—
Boulogne, 3 cks. 2 cs.
Barytes—
Antwerp, 200 bgs.
Caoutchouc—
Boulogne, 4 cks.
Colours—
Ghent, 3 cs.
Hamburg, 1
Dyestuffs (*otherwise undescrib*
Amsterdam, 1 ck. 1 cs.
Boulogne, 47 27 pks.
Rotterdam, 522 105 1
Farina—
Delfszyhl, 749 bgs.
Hamburg, 1 cs.
Fustic—
Hamburg, 10 t.
Glue—
Antwerp, 2 cks.
Indigo—
Rotterdam, 3 cks.
Ochre—
Dunkirk, 93 cks.
Phosphate—
Dunkirk, 1,600 bgs.
Potash—
Dunkirk, 36 dms.
Rotterdam, 111 cks.
Saltpetre—
Hamburg, 2 cks.
Tartar—
Rotterdam, 1 ck.
Varnish—
Boulogne, 10 cks.

GRIMSBY.

Week ending March 5th.

Albumen—
Hamburg, 5 cks.
Aniline—
Hamburg, 41 cks.
Barytes—
Rotterdam, 100 bgs.
Chemicals (*otherwise undescrib*
Hamburg, 1 ck.
Colours—
Antwerp, 4 cks. 55 pk
Hamburg, 2 7 cs. 25
Rotterdam, 13 30
Indigo—
Rotterdam, 1 cs.
Lamp Black—
Hamburg, 2 cs.
Varnish—
Hamburg, 2 cks.
Wood Pulp—
Malmo, 59 bls.
Zinc Ashes—
Antwerp, 12 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 9th.

Acids—
Durban, 10 cs. £19

Alkali—
Hamburg, 5 t. 2 c. £102

Alum—
Salonica, 31 t. 18 c. £135

Alum Waste—
Calcutta, 40 t. 10 c. £

a—
27 dms. £218
abeth, 10 cs. 16
10 80
12 29

ium Carbonate—
560 kgs. £692
4 t. 4 c. 117
s, 2 3 66
8 14 225

ium Sulphate—
que, 49 t. 4 c. £464
100 1,000
15 18 155
, 10 2 115
, 250 2,438
66 5 665
g, 2 20
e, 25 300
8 84
m, 50 16 520
250 2,438

—
ton, 4 t. 3 c. £91

ng Powder—
, 1 t. 2 c. £11
1 12

Acid—
ion, 1 t. £35

orf, 1 t. £17
nia, 2 33
g, 1 16
, 1 15

Carbide—
abeth, 10 c. £10

Acid—
24 dms. £6
2 cs. 5
m. 63 cks. 230
hafen, 73 309
ne, 70 25
, 9 15

Dioxide—
wn, 1 t. 19 c. £80

Soda—
wn, 5 c. £6
abeth, 15 24
, 4 7
re, 7 6

ls *(otherwise undescribed)*
ne, 3 cs. £37
10 dms. 25
e, 8cks. 34 pks. 101
15 22
7 51
, 58 60
3 kgs. 18
5 30
5 16
8 21
d, 15 17 126
5 2 c. 25
g, 25 144
12 40 307

cid—
ne, 5 c. £28
s, N.B., 15 84
6 kgs. 34
1 cs. 2 16
rk, 6 33
4 23
1 t. 5 142
17 94
on, 2 14
1 120
na, 1 112

ducts—
ine
6 cs. £318

e Dyes
1 cs. £8

e Oil
k, 12 dms. £340
l
48 cks. £177
, 25 96 brls. 365

ote
, 20 cs. £12

ha
50 cks. £145

halline
k, 88 cks. £77
6 54
, 1 7

12 brls. £8
ns, 200 cks. 60
3,200
750 390
1,207
290 t. & qty. 1,144

ine
13 cks. £150

Tar
Pt. Elizabeth, 50 dms. £11
Sulina, 24 runlets 13
Cologne, 200 brls. 90
Hamburg, 250 115

Toluol
Boulogne, 10 cks. £45

Copper Sulphate—
Teneriffe, 10 c. £10
Paris, 35 t. 584
Bordeaux, 39 663
B. Ayres, 1 20
Marseilles, 5 83
Treport, 20 337

Corrosive Sublimate—
Bombay, 20 cs. £200

Cream of Tartar—
Adelaide, 5 c. £22
Melbourne, 1 t. 10 116
Wellington, 3 12
Halifax, 5 cks. 100

Disinfectants—
Hamburg, 20 pks. £23
Calcutta, 4 cs. 10
Hong Kong, 38 cks. 92
Bombay, 499 20 kgs. 210
Melbourne, 34 86
Pt. Elizabeth, 29 33

Hypophosphite of Lime—
New York, 10 c. £185

Lime—
St. Kitts, 4 t. 3 c. £17

Manure—
Demerara, 100 t. £850
B. Ayres, 6 18
Charente, 47 6 c. 38
Durban, 25 57
Antigua, 10 90
New York, 1 10 25
Landerneau, 134 9 605
Lyttelton, 5 4 178

Nitric Acid—
Channel Is., 35 carboys £61

Oxygen—
Amsterdam, 2 cs. £50

Phosphorus—
Melbourne, 3 c. £27
Lyttelton, 10 cs. 68

Potash—
Ghent, 1 t. 11 c. £63
Wellington, 10 8

Potassium Bichromate—
Melbourne, 1 t. £41

Potassium Chlorate—
Pt. Elizabeth, 30 kgs. 20 cs. £79

Potassium Cyanide—
Auckland, 25 cs. £280
King George's S., 7 t. 7 c. 546
Delagoa Bay, 34 3 2,733
Madras, 2 7 234

Potassium Permanganate—
Calcutta, 5 c. £19

Salt Cake—
Brussels, 140 t. £245

Saltpetre—
Pt. Elizabeth, 18 c. £20

Sheep Dip—
B. Ayres, 13 c. £15
Pt. Elizabeth, 3 t. 3 101

Slag—
Grenada, 30 t. £64
Cape Town, 89 6 c. 161

Soda—
Pt. Elizabeth, 4 t. 3 c. £13

Soda Ash—
Lyttelton, 6 t. 9 c. £28
Wellington, 9 3 45

Soda Crystals—
M. Video, 14 c. £6

Sodium Bicarbonate—
B. Ayres, 1 t. £7
Durban, 10 c. 6
Marseilles, 10 70
Wellington, 5 5
Pt. Elizabeth, 11 8

Sodium Hyposulphite—
Melbourne, 1 t. £5

Sodium Prussiate—
Boston, 10 t. £374

Sodium Sulphate—
Wellington, 8 t. 10 c. £20

Sulphur—
Melbourne, 5 t. 2 c. £31

Sulphuric Acid—
Colombo, 4 t. 7 c. £40
Singapore, 3 3 30

Superphosphates—
Landerneau, 123 t. 10 c. £250

Tartaric Acid—
Yokohama, 1 t. 1 c. £118
Wellington, 3 cs. 15
Halifax, 3 cks. 37
Calcutta, 2 12

LIVERPOOL.

Week ending March 9th.

Acetic Acid—
Lisbon, 12 brls. 14 c. £20

Albumen—
New York, 5 t. £48

Alkali—
Bilbao, 5 t. 2 c. £20
Tripoli, 10 7 50
Genoa, 80 320
Cape Town, 2 8 3 q. 10
Valencia, 83 11 2 335
Barcelona, 7 9 3 30

Alum—
Bari, 19 c. 1 q. £4
Cape Town, 2 t. 4 3 16
St. John's, N.B., 6 1
Madras, 3 15 20
Braila, 3 1 18
St. Johns, 7 15 2 36
Colombo, 1 12 96
Galatz, 18 15 92
Halifax, 10 50

Ammonium Carbonate—
Marseilles, 1 t. 13 c. £17
Trieste, 10 cks. 26
Bordeaux, 1 1 30
Rio de Janeiro, 1 2 3 q. 26
Rotterdam, 1 30
Yokohama, 2 57
Hamburg, 12 17
Rouen, 2 2 55

Ammonium Chloride—
M. Video, 5 c. £9
Antwerp, 1 t. 2 40
Galatz, 12 20
Alexandria, 1 32
Ibraïl, 1 3 2 q. 40
Rouen, 1 18
Melbourne, 1 1 20

Ammonium Sulphate—
Castellon, 48 t. 4 c. £483
Palermo, 5 49
Genoa, 51 960
Samarang, 60 4 603
Gd. Canary, 5 10 55
Valencia, 251 1 q. 2,446
Las Palmas, 39 10 1 401

Antimony—
Gijon, 4 c. 3 q. £9

Antimony Sulphate—
New York, 10 brls. £50

Bleaching Powder—
Bombay, 8 bxs.
Boston, 240 cks.
B. Ayres, 8
Cape Town, 40
Dunkirk, 17
Genoa, 27
Havana, 10
Lisbon, 10
Montreal, 50
Naples, 33
Newport News, 339
New York, 401
Rotterdam, 6
San Sebastian, 60
Seville, 20
Sydney, 5
Tampico, 73 cs.
Venice, 34
Vera Cruz, 20

Boracic Acid—
Tampico, 1 c. £1
Wellington, N.Z., 1 t. 27
Kobe, 6 1 116
Rouen, 3 75

Borax—
Hamburg, 6 t. 10 c. £92
Naples, 25 brls. 36
Constantinople, 3 2 q. 6
Ingersoll, 10 14 3 161
Vera Cruz, 4 3
Tampico, 5 4
Halifax, 1 3 1 17
Wellington, N.Z., 1 15
Hiogo, 3 8 49
Montreal, 3 48
Bari, 10 8
Rotterdam, 1 2 21
Braila, 1 16
St. John's, N.B., 3 10 3 53
Durban, 2 15 2 42
Piræus, 18 15

Calcium—
New York, 18 t. 4 c. £36

Calcium Chloride—
M. Video, 2 t. 1 c. £6
Odessa, 20 2 39
Dunedin, 6 13

Carbolic Acid—
Cape Town 5 dms. 4 c. 3 q £10
Sydney, 1 t. 2 3 10
Genoa, 1 5
St. Louis, 5 12 312
Rotterdam, 10 219
Dunedin, 3 10 23
Baltimore, 13 48
Hamburg, 2 5
Montreal, 1 12 2 105

Caustic Potash—
Adelaide, 1 t. 1 c. £30
Cuidad Bolivar, 1 29
Sydney, 2 8 86
New York, 17 17 440

Caustic Soda—
Adelaide, 50 dms.
Alexandria, 31
Amsterdam, 112 58 cks.
Baltimore, 50
Barcelona, 130 82 60 pks.
Barranquilla, 5
Braila, 5
Bremen, 5 brls.
Brisbane, 20 bxs.
Cadiz, 20 20
Carril, 5
Cape Town, 7
Catania, 35
Christiania, 9
Corunna, 20 cks.
Delagoa Bay, 12 cs.
Drammen, 5
Dunedin, 12 drs.
Genoa, 170
Hamburg, 40
Havana, 65
Hiogo, 100
Karachi, 10
Leghorn, 15
Louisville, 150
Malaga, 30 pks.
Malta, 7
Maracaibo 10
Marseilles 52
M. Video, 50
Naples 30
N. Orleans, 200
Oporto, 42
Pernambuco, 46
Philadelphia, 200
Piræus 60
Providence, 100
Rio de Janeiro, 50
Rotterdam, 94
San Sebastian, 65
Santos, 20
Santander, 50
Seville, 966 76 brls.
Sydney, 90 15 cs.
Tampico, 40 cks.
Tarragona, 45 pks.
Valencia, 25
Vera Cruz, 110
Yokohama, 100

Chemicals *(otherwise undescribed)*
Philadelphia, 1 t. 6 c. £403
Adelaide, 6 30
St. John's, N.B., 1 2 q. 5
Madras, 4 26
Algoa Bay, 1 110
Smyrna, 1 31
Messina, 5 8
Gd. Canary, 20 62

China Clay—
Oporto, 20 cks.
Pernambuco, 30
Rio de Janeiro, 30 brls.

Citric Acid—
Rio de Janeiro, 5 c. 2 q. £30
Carril, 2 11

Coal Products—
Aniline
Boston, 2 cks. 1 kg. 64 cs.
Aniline Colours
Yokohama, 5 cs.
Creosote Oil
Bordeaux, 250 cks.
Pitch
Carril, 100 brls.
Cette, 630 t.
Marseilles, 1,473
Galatz, 25 cks.
Tar
Hamburg, 306 brls.
Philadelphia 200
Rio de Janeiro, 3
Sierra Leone, 35 pks.

Copper Nitrate—
Lisbon, 1 c. 1 q. £3

Copper Sulphate—
Invercargill, 15 c. £12
Ancona, 5 t. 85
Bombay, 2 10 37
Patras, 17 10 279
Fiume, 10 2 q. 161
Alexandria, 1 1 1 16
M. Video, 7 7 2 117
Antwerp, 5 1 3 81
Smyrna, 1 11 24
Vigo, 1 16
Christiania, 1 1 16
Odessa, 7 9 2 117
Cette, 5 81
Trieste, 155 13 2,504
Rotterdam, 10 3 157
Amsterdam, 3 10 59
Ghent, 5 78
Nantes, 28 6 465
Lisbon, 69 17 944
Rouen, 62 19 1 1,006
Bordeaux, 310 5 2 5,063
Oporto, 46 7 3 729
Genoa, 329 1 5,254
Brindisi, 79 3 2 1,258
Leghorn, 235 10 3 3,794
Naples, 131 2 3 2,025
Venice, 441 19 3 7,128

Copperas—
B. Ayres, 4 t. 13 c. £9
St. John's, N.B., 3 19 12

Dried Blood—
Ghent, 49 t. 9 c. 2 q. £215

Guano—
Valencia, 16 t. 15 c. £115

Gypsum—
Genoa, 10 t. 10 c. £33

Iron Oxide—
New York, 2 t. 15 c. £60
Havre, 10 4 76
Gijon, 1 14 9

Lime—
Little Popo, 18 t. £38
Cape Mount, 4 10 c. 4
Elmina, 4 9 4
C. C. Castle, 2 5 2
Punta Arenas, 4 7

Magnesia—
B. Ayres, 12 cs.
Lisbon, 1
M. Video, 4
Montreal, 8 2 cks.
Paris, 104
Rouen, 30
Tarragona, 20

Magnesium Chloride—
Oporto, 4 t. 1 c. £10
Rouen, 5 1 2 q. 12

Magnesium Sulphate—
Lisbon, 43 bxs.
Tampico, 2 kgs.
Vigo, 13 c. £3

Manure—
Free Chateau, 9 t. 19 c. £35
Rostock Toun, 750 1,733
Las Palmas, 40 265

Muriatic Acid—
Pernambuco, 9 c. £5

Oxalic Acid—
Boston, 11 t 1 c £300

Paint—
Accra, 1 cs.
Bakana, 3 cks. 5 dms.
Buguma, 6 6 kgs.
Cadiz, 9
Calcutta, 20
Cartagena, N.G., 81 pks.
" Sp., 30
Cienfuegos, 2
Constantinople, 51
Coronel, 14
Curacao, 30
Egwanga, 20
Esquimalt, 18
Gibraltar, 34
Havana, 3
Hayti, 3
Ponce, 10
Pram Pram, 15 kgs.
Rangoon, 1
Rio de Janeiro, 350
Sierra Leone, 54
Teneriffe, 24
Trieste, 40
Vera Cruz, 7

Painters' Colours—
Accra, 124 pks.
Alexandria, 307
New York, 12
Para, 94
Parnahyba, 3 brls.
Piræus. 3 bls.
Pt. Natal, 18
Rio de Janeiro, 72
Santos, 15 kgs.
Tripoli, 81
Yokohama, 14

Paraffin Wax—
Bari, 5 bgs.
Chois, 11 cs.
Corfu, 15
Leghorn, 220
Pernambuco, 8 pks.
Rotterdam, 15
Salonica, 15

Phosphorus—
Rio de Janeiro, 5 c. £70

Potash—
Sydney, 2 t. £56

Potassium Bichromate—
M. Video, 15 c. 3 q. £24
Paris, 5 t. 6 1 176
Rouen, 5 170

Potassium Carbonate—
New York, 18 t. 17 c. £312

Potassium Chlorate—
B. Ayres, 1 t. 10 c. £60
Havana, 5 8
Naples, 1 33
Pernambuco, 1 10 60
Yokohama, 6 5 202
Vera Cruz, 5 8
Funchal, 2 4
Madeira, 1 2
Rotterdam, 1 36
Gijon, 8 16
Genoa, 10 16
Hiogo, 27 10 795
Christiania, 2 18
New York, 27 16 804
Philadelphia, 5 151

Potassium Chloride—
Lisbon, 1 t. 3 q. £9
Para, 6 c. 11

Potassium Cyanide—
Melbourne, 5 t. £560
Corinto, 4 1 c. 2 q. 437

Potassium Prussiate—
B. Ayres, 4 c. £22
Vera Cruz, 2 t. 110

Salt—
Abonnema, 40 t.
Accra, 32 5 c.
Algoa Bay, 5
Antwerp, 240
Attaboe, 2 10
Axim, 16 5
Bakana, 40
Baltimore, 265
Belize, 22 6
Benin, 10
Bonny, 40
Boston, 110
B Ayres, 80 10
Calcutta, 4,183
Camercons, 46 18
Chama, 6 5
Christiania, 117 10
Conakry, 70 7
Egwanga, 70 5
E. London, 104
Fredricia, 1,103
Fuca, 20
Ghent, 60
Gd. Bassa 6
Lagos, 189 13
Malta, 1 5
Manaos, 142 17
Matadi, 15
M. Video, 8 cs.
Montreal, 137
N. Orleans, 900
New York, 3,187
Noqui, 30
Old Calabar, 80 5 c.
Opobo, 130 5
Para, 100
Philadelphia, 30
Portland, Me, 70 18
Rio de Janeiro, 95 cs.
Rosario, 13
Rotterdam, 190
St. John's, 80
Sierra Leone, 101 10 c.
Trinidad, 42 8
Warri, 2 10

Salt Cake—
Philadelphia, 40 t. £59
Antwerp, 14 18 c. 19
Delagoa Bay. 10 26
Baltimore, 161 3 240

Saltpetre—
Theresina, 4 c. £4
Parnahyba, 7 8
Maranham, 9 3 q. 10
B. Ayres, 11 1 11
Para, 11 2 12
Santos, 3 t. 17 3 78

Sheep Dip—
Natal, 210 dms. £60

Soap—
Accra, 450 bxs.
Alexandria, 47 cs.
Amsterdam, 205
Antwerp, 20
Axim, 120
Barbadoes, 100
Bluefields, 50
Bombay, 235 4
Calcutta, 30
Cape Town, 641
Constantinople, 25
Delagoa Bay, 275
Dominica, 90
Genoa, 155
Gibraltar, 350
Guadeloupe, 500 bells.
Guayaquil, 650
Halifax, 78
Hamburg, 50
Havre, 2 cks.
Lagos, 311
La Plata, 10
Las Palmas, 50
Lausanne, 130
Macassar, 600
Madras, 22 10
Malta, 130
Manaos, 530
Melilla, 50
Menado, 1,000
Montreal, 156
Montserrat, 90
New York, 85 dms. 1
Ottawa, 78
Para, 350 bxs.
Penang, 425
Piræus, 1 brl.
Pt. Elizabeth, 70
Pt. Natal, 560
Punta Arenas, 24 cs.
Rangoon, 200 6
Rotterdam, 373
St. Gall, 125
St. Thomas, 350
Salonica, 75
San Juan, 140
Sapeli, 500
Shanghai, 1,700
Singapore, 375
Smyrna, 22
Surinham, 75
Sydney. 6,556
Teneriffe, 448
Tientsin 40
Toronto, 156
Valparaiso, 1
Warri, 1,000
Yokohama, 94

Soda Ash—
Adelaide, 4 brls. 341 cks.
Boston, 78 tcs 200 bgs. 195
Calcutta, 142
Catania, 100
Ceara, 35 brls.
Corfu, 30
Fiume, 100
Ghent, 22
Hamilton, 200
Hiogo, 241
Hong Kong, 100
Lisbon, 11
Melbourne, 100
M. Video, 5
Montreal. 97 tcs
New York, 480 163 113
Oporto, 5 pps.
Piræus, 25 brls.
Rio de Janeiro, 50 160
Santos, 10
Valparaiso, 10
Venice, 100 bgs.
Vera Cruz, 50
Wellington, 198
Tampico, 5 t. 2 q. £28

Soda Crystals—
Calcutta, 25 brls.
Delagoa Bay, 25 kgs. 4
Gibraltar, 30
Halifax, 50
Newcastle, 67 cks.
Rangoon, 7
Windsor, 115

Sodium Acetate—
Vera Cruz, 2 cks.

Sodium Arseniate—
Lisbon, 2 cks.

Sodium Bicarbonate—
Adelaide, 25 bgs. 247 kgs. 10 cks.
Amsterdam, 20 12
Antwerp, 180 10 bgs. 6
Barcelona, 30 kgs.
Barranquilla, 10
Bilbao, 121
Bombay, 289
Braila, 67
Calcutta, 875
Cape Town, 18 bgs. 70 kgs.
Dunedin, 20 8
Galatz, 137
Genoa, 50 bgs. 22
Halifax, 212 kgs.
Havana, 20 30 pks.
Hiogo, 400
Hong Kong, 24
Johannesburg 40
Malaga, 5 4 cks.
Melbourne, 20
Naples, 230
Newcastle, 100
Odessa, 123
Paris, 65
Pt. Natal, 30 bgs.
Rangoon, 15
Santander, 50 kgs.
Seville, 277 25 brls. 4
Sydney, 73
Townsville, 50
Venice, 25
Wellington, 360
Windsor, 25
Yokohama, 250

Sodium Carbonate—
Boston, 119 brls.

Sodium Chlorate—
Boston, 100 kgs.
Hamburg. 2 cks.
Philadelphia, 1 t. 5 c. £46

Sodium Hyposulphite—
Tampico, 400 kgs.

Strontia—
Hamburg, 5 t. 6 c. £36

Sulphur—
Lagos, 1 t. 8 c. 2 q. £9
Boston, 100 1 423
Punta Arenas, 3 2 2 33
Colombo, 18 4

Superphosphates—
Trinidad, 100 t. £275
Nantes, 103 6 c. 3 q. 230
Bilbao, 98 11 215
Lisbon. 1 1 3 3
Valencia, 50 92
Gd. Canary, 20 63
Cullera, 195 2 1,000

Tannic Acid—
Lisbon, 1 ck. 5 c. 1 q. £58

Tartaric Acid—
Carril, 2 c. £11

Tin Crystals—
Trinidad, 1 t. 14 c. 3 q. £94

Varnish—
Ibrail, 5 brls. 30 dms.
Lagos, 10
Leghorn, 22 pks.
Madras. 5 cs.
Nagasaki, 100
Pt. Natal, 2

Zinc Chloride—
Bombay, 10 t. £190
Hamburg, 10 132

MANCHESTER.

Week ending March 9th.

Alum—
Acre, 15 brls.
Alexandria, 200
Djerba, 4
Mersyne. 25

Ammonium Carbonate—
Liepzig, 10 kgs. 5 cks.
Rotterdam, 10 3 cs. 1

Ammonium Chloride—
Germany, 6 cks.

Aniline Colours—
Belgium, 1 cs.
France. 1 kg.
Germany, 3 1

Aniline Oil—
Belgium, 5 dms.

Aniline Salts—
France, 3 dms.
Germany, 30 brls.
Holland, 2 pns.

Anthracene—
Germany, 97 cks.

Beta-Naphthol—
Belgium, 4 kgs. 2 cks.
Bones—
Beauvais, 372 bgs.
Meru, 4
Borax—
Beyrout, 1 ck.
Carbolic Acid—
France, 229 btls. 10 cs.
Caustic Soda—
Alexandria, 30 dms.
Chemicals (*otherwise unaescribed*)
Belgium, 5 kgs.
Dried Blood—
France, 227 bgs.
Glue—
Holland, 20 cks.
Germany, 25
Linseed Oil—
Alexandria, 16 brls.
Mirbane Oil—
Belgium, 2 tins
Paint—
Beyrout, 3 cs. 15 dms.
Painters' Colours—
Alexandria, 16 pks.
Paraffin Wax—
France, 5 bls.
Rotterdam, 10 cs.
Pitch—
Belgium, 300 t. 4 c.
Havre, 650 15
Sodium Naphthionate—
Belgium, 31 cks.
Sodium Nitrate—
Belgium, 1 kg.
Tar—
Belgium 10 brls.
France, 30
Tar Colours—
Germany, 4 kgs.
Tar Oil—
Germany, 1 cs.

HULL.

Week ending March 5th.

Alkali—
Antwerp, { 1 bg. 1 ck.
Harlingen, 17
New York, 509 dms.
Rotterdam, 1 cs.
Ammonium Sulphate—
Dunkirk, 92 bgs.
Palermo, 50
Rotterdam, 92
Chemicals (*otherwise undescribed*)
Amsterdam, 182 cks.
Antwerp, 6 kgs.
Bergen, 13 cks 4 cs.
Bordeaux, 10
Bombay, 687
Christiania, 24
Constantinople, 40 brls.
Copenhagen, 12
Drontheim, 1 16 pks.
Dunkirk, 3
Danzig, { 57 bgs. 30 cks.
Gothenburg, 10 cs. 5 pks.
Hango, 6 22 69 dms.
Hamburg, 11 57
Kurrachee, 10
New York, 10
Odessa, 112
Palermo, 1
Rotterdam, 12 100
Reval, 5 2 pks.
Cottonseed Oil—
Amsterdam, 82 c.
Antwerp, 669
Christiania, 60
Dunkirk, 30
Danzig, 101
Fiume, 19
Ghent, 98
Gothenburg, 205
Hamburg, 871
Rotterdam, 734
Rouen, 321
Trieste, 742
Dyestuffs (*otherwise undescribea*)
Christiania, 1 ck.
Farina—
Dunkirk, 2 bgs.
Guano—
Dunkirk, 1,700 sks.
Linseed Oil—
Bergen, 11 c.
Bombay, 176
Christiania, 149
Copenhagen, 95
Drontheim, 132
Ghent, 7
Hamburg, 109
Kurrachee, 20
Venice, 17
Manure—
Dunkirk, 1,507 bgs.
Venice, 570 t.
Mineral White—
Bergen, 20 bgs.
Ochre—
Hamburg, 30 cks.
Painters' Colours—
Amsterdam, 10 cks.
Antwerp, { 96 78 cs. 5 pks. 5 kgs. 117 dms.
Bergen, { 1 ck. 184 pks. 79 dms.
Bombay, 18 80
Christiania, 6 2 56 pks.
Constantinople, 1 8 dms.
Copenhagen, { 3 1 47 1 pk.
Drontheim, 1 34
Dunkirk, { 1 kg. 2 cks. 7 brls.
Danzig, 20
Fiume, 4
Ghent, 3 1 12 dms.
Gothenburg, 164 1 cs.
Hamburg, 12 155
Harlingen, 1 brl.
Kurrachee, 25
New York, 10
Rotterdam, 1 cs.
Rouen, 12
Venice, 29
Plumbago—
Hango, 1 ck.
Soap—
Amsterdam, 25 bxs
Antwerp, 1 kg.
Christiania, 1 cs.
Copenhagen, 2
Drontheim, 101
Ghent, 149 bxs. 1 ble
Hango, 1
Superphosphates—
Bordeaux, 600 bgs.
Tar—
Amsterdam, 6 cks.
Antwerp. 334 brls.
Christiania, 10
Copenhagen, 13
Dunkirk, 25
Danzig, 5
Hamburg, 18
Rotterdam, 5
Stavanger, 2
Turpentine—
Hamburg, 10 cs.
Varnish—
Antwerp, 1 brl.
Christiania, 1 ck.
Ghent, 3 bxs.
Hamburg, 1 dm.

GLASGOW.

Week ending March 10th.

Ammonia—
Rotterdam, 50 t. 9 c.
Ammonium Carbonate—
Christiania, £42
Ammonium Sulphate—
Castellon, 111 t. 10 c.
Cullera, 843 14¼
Valencia, 398 19½
Boracic Acid—
Brisbane, £48
Borax—
Rotterdam, £89
Carbolic Acid—
Rotterdam £200
Caustic Soda—
Amsterdam, 12 t. 3 c.
Chloroform—
Melbourne, £56
Coal Products—
Aniline
Rotterdam, £4
Benzol
Rotterdam, £25
Creosote Oil
Christiania, £4 10s.
U.S.A., £168
Danzig, 64 t. 19 c.
Naphtha
Rotterdam, £410
Pitch
Danzig, 151 t. 18 c.
Tar
U.S.A., £55
Rotterdam, 25
Danzig, 148 t. 19
Hamburg, 152
Coal Pr ducts (*otherwise undes.*)—
Rotterdam, £25
Cod Oil—
Brisbane, 1 t. 10 c
Extracts—
Canada, £125 14s.
Iodine—
Rotterdam. £750
Lead Nitrate—
Canada, £20
Linseed Oil—
Canada, 5 t. 3¼ c.
Townsville, 1 4
B. Ayres, 1 12
Manganese—
Rouen, 5 t.
Italy, £20
Manganese Oxide—
New York, £110
Manure—
Rotterdam, 1 t. 1 c.
Paint—
Bombay, £106
Brisbane, 61
Calcutta. £43 17s.
Townsville, £76
Painters' Colours—
Santos, £31
U.S.A., 84
Melbourne, qty.
Sydney, "
Rotterdam, 27
Paraffin Wax—
Barcelona, £165
Bordeaux, 186
Skien, 34
Rouen, 42
France, 247
Italy, 544
Potassium Bichromate—
Barcelona, £317
Paris, 540
Rouen, 284
U.S.A., 958
Rotterdam, 286
Italy, 703
Victoria, Aus., 96
Potassium Chloride—
New York, £1,400
Potassium Cyanide—
Melbourne, £525
Sydney, 280
Potassium Prussiate—
Drontheim, 1 c.
Rosin Oil—
Christiania, £11
Soda—
Rotterdam, £11
Soda Crystals—
Ghent, 9 t. 4¼ c.
Sodium Bichromate—
Paris, 18¼ c.
Rouen, 8 t. 8
Italy, 20 4¼
Starch—
Rio de Janeiro, £47
Rotterdam, 10 c.
Tallow—
Rotterdam, 17 t. 5 c.
Treacle—
Christiania. 18 t. 14¼ c.

TYNE.

Week ending March 5th.

Alkali—
Antwerp, 10 t. 1 c.
Copenhagen, 1 15
Rotterdam, 5 9
Hamburg, 16 10
Bergen, 2 18
Amsterdam, 10 8
Anthracene—
Rotterdam, 57 t. 3 c.
Antimony—
Barcelona, 1 t.
Barium Binoxide—
Naples, 8 t.
Barium Carbonate—
Copenhagen, 5 t.
Rotterdam, 200
Barytes—
Antwerp, 1 t.
Blanc Fixe—
Barcelona, 5 t. 2 c.
Bleaching Powder—
Antwerp, 13 t. 4 c.
Christiania, 16 10
Rotterdam, 21 9
Hamburg, 15 5
Bergen, 8 16
Trondhjem, 11 3
Amsterdam, 4 10
Caustic Soda—
Barcelona, 94 t. 3 c.
Hamburg, 2 10
Aalborg, 4 7
Ancona 31 18
Iron Oxide—
Naples, 2 t.
Linseed Oil—
Pozzuoli, 5 t. 7 c.
Litharge—
Rotterdam, 5 c.
Hamburg, 2 t. 11
Magnesia—
Antwerp, 9 c.
Constantinople, 7
Barcelona, 11 t. 8
Hamburg, 3
Ochre—
Christiania, 1 t. 12 c
Paint—
Barcelona, 10 c.
Copenhagen, 2
Hamburg, 1 t.
Phosphorus—
Barcelona, 1 t. 17 c.
Soda—
Christiania, 8 t. 2 c.
Rotterdam, 20 6
Ancona, 12 1
Amsterdam, 10
Soda Ash—
Naples, 10 t. 15 c.
Sulphur—
Drammen 100 t.
Superphosphates—
La Rochelle, 740 t.
Tallow—
Naples, 6 t. 5 c.
White Lead—
Hamburg, 11 c.

GOOLE.

Week ending March 2nd.

Alkali—
Boulogne, 4 cks.
Benzol—
Boulogne, 25 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 40 cks.
Coal Products (*otherwise undes.*)—
Amsterdam, 2 cks. 20 dms.
Antwerp, 10
Boulogne, 1 cs. 2
Hamburg, 3
Rotterdam, 244 1
Colours—
Boulogne, 1 ck. 6 cs.
Ghent, 6
Rotterdam, 3 dms.
Dyestuffs (*otherwise unaescribed*)
Hamburg, 1 ck.
Manure—
Ghent, 253 bgs.
Pitch—
Antwerp, 764 t.

GRIMSBY.

Week ending March 5th.

Chemicals (*otherwise undescribed*)
Antwerp, 350 bgs.
Hamburg, 4 kgs.
Rotterdam, 80 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 55 cks. 5 cs. 57 brls.
Hamburg, 9
Rotterdam, 12 btls.
Colours—
Antwerp, 5 cks. 9 pks.
Hamburg, 9

PRICES CURRENT.

WEDNESDAY, March 16th, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 %, and 40 %	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 %)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	20	0	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	3	9
„ „ (grey) Hull	„	9	1	3
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	5	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	3
„ 50/90 „	„	0	1	6
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	2	17	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	50	15	0
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	45	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	17	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate	„	20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	15	0
„ „ (grey) (ex ship	„	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	16	0	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	6
Oils:—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	6
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6¼
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	12	0	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3⅝
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (to ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „ (to ton lots)		8	0	0
„ „ (70 % Caustic Soda) „ „ „ (to ton lots)		7	7	6
„ „ (60 % Caustic Soda) „ „ „ (to ton lots)		6	7	6
„ „ (pure liquor 90° Tw.) „ „ „ (to ton lots)		3	17	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	0
„ Sulphate (Salt-cake)	per ton.	0	18	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6¼
Sulphur (Flowers)	per ton.	7	10	0
(Roll Brimstone)	„	6	5	0
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	68	0	0
Zinc (Spelter)	„	18	7	6
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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HOW FAR IS CELLULOID DANGEROUS?

OF late a good deal has been said about the dangers of celluloid, and our contemporary the *Lancet*, which is inclined to warp at times, has been indulging freely in prophetic warnings, and "a very serious word of caution" delivered with all the condescension of paternal pomposity.

Under the circumstances we feel disposed to inquire how far this crusade against celluloid and its correlatives is based on matter of fact, and how far on the false alarms of mental hypochondriacs.

We do not for a moment deny that celluloid is liable to be dangerous, under certain circumstances. But what are these? Can they be defined? and to what extent do they obtain?

We have seen arguments disposing of the whole affair as trumpery, not to say imaginary, but this view is undoubtedly erroneous. Those who thus gently rail at what they deem a foible say if celluloid is so inflammable everything is inflammable—hair, paper, and what not, and then argue that despite these facts we still exist—nay even thrive—and are not hopelessly overtaken by burning fatalities.

Such sweeping but illogical arguments may do for some, but in all things inflammability is a matter of degree, and there is certainly a vast difference as regards danger between hair and paper with their relatively high ignition points, and celluloid which becomes combustible at a temperature that will hardly char paper.

Such fallacious generalizing tends to inspire a confidence in celluloid which is unwarranted. On the other hand, when those who not only start at a shadow, but declare that if it falls on you it will crush fatally, indulge in grandmotherly vapourings, they provoke such raillery, and do more harm than good. A little consideration will show that by adopting a tone intermediate between these extremes, it will be quite possible to indicate to the public the potential danger of certain celluloid articles without raising any false alarms. In fact, the last few words constitute the key to the whole position It is the "certain articles" that call for a public admonition, not the uses of celluloid in general.

For toilet head-gear, certain kinds of buttons, and perhaps one or two other things which might be mentioned, the use of celluloid is fraught with serious risk to the users. At the same time, the results that must follow are equally sure to prejudicially affect the makers, whose object is to popularise, not terrorise. In a sense, the remedy is self-made. There is no reason, however, why the danger which lurks in such articles when made from celluloid should not be emphasised, by pointing out that the danger lies in the fact of celluloid, and like preparations, giving off inflammable vapours at a low temperature, so that its safety and suitability for other purposes must be judged accordingly. For many purposes it undoubtedly is very convenient, and in all ordinary senses of the word safe, whereas the general

tone of the article we have referred to, is calculated to frighten the public off everything of a celluloid nature. The subtle allusion to ether, and the innuendo concerning the possible harmfulness of the fumes which celluloid gives off when touched with a hot iron, are misleading to the general public. We have absolutely no reason for desiring in any way to defend celluloid or similar preparations, but as a matter of policy we protest against either exaggeration or scoffing deprecation in matters which have to be considered from limited and specific standpoints. We have defined the circumstances under which celluloid is a source of danger, and venture to think that the definition as it stands is quite sufficient to put the public on the alert, without misleading. It certainly is rather amusing to read our contemporary's rhetorical declamations, and to learn how "we plead in the interests of public safety" in regard to this limited danger, while but recently they were so careful of the "public safety" as to publish a formidable array of experiments endeavouring to prove that oil flashing at 73° F. was safe and in every way desirable, although its victims were numbered by hundreds instead of units. The worthlessness of these experiments has since been shown by the crushing negative pronounced in the resolution recently adopted by the London County Council in favour of a 105° F. flash point. The "public safety" would have been scantily cared for, in this far more important matter, if it had been dependent upon the inexplicable pleadings of our contemporary.

The answer to the query, put in our title, has, we think, been given, and the conjoint warning to the public and hint to the manufacturers, will, we believe, do more to prevent a repetition of the few lamentable accidents which have happened, than endless experiments on "wigs," or universal branding as "highly inflammable"

THE MANCHESTER SEWAGE EFFLUENT DIFFICULTY.

BACTERIAL FILTERS TO BE TRIED.

HOW to satisfactorily dispose of the effluent from the sewage works at Davyhulme is a question which has long engaged the anxious attention of the Rivers Committee of the Manchester Corporation. The special Sewage Sub-committee now report that—"It will be within the recollection of the Council that in the years 1878-1895 deputations from the Rivers Committee visited various sewage works. The Davyhulme precipitation works were completed, and the treatment of sewage by chemical precipitation commenced in December, 1893. The quantity of sewage thus dealt with has gradually increased as the old sewers of the city have been connected up with the new intercepting system of sewers, until at the present time the sewage from upwards of 512,000 persons is intercepted, and treated at the Davyhulme works. Soon after the works were opened, it was found that large quantities of grit from the street surfaces, sand, crushed clinker, &c., were washed down to the works, and deposited at the inlet ends of the precipitation tanks. This was especially noticeable in times of flood, when as much as 300 tons of this material were brought down within the 24 hours. A small catchpit 44ft. long and 6ft. deep was originally formed at the outlet to the main sewer at Davyhulme, but as no means were provided for cleansing this pit it was discontinued on the advice of Mr. James Mansergh, M.I.C.E., consulting engineer, who was called in to advise the Rivers Committee in the interval between the decease of the late City Surveyor and the appointment of the present officer. The cost of removing heavy material deposited in the precipitation tanks was found to be considerable, as it had to be barrowed by hand on temporary plank gangways to the north side of the tanks, and then deposited on the land of the Corporation. Consequently, the Rivers Committee instructed the City Surveyor to prepare plans for screening chambers, intereepting catchpits, &c., somewhat similar to those in use at the sewage works of the Sheffield Corporation. The contracts for these catchpits, with buildings and machinery for adding and mixing the chemicals, are now let, and the works are in progress, and may be expected to be completed within six months from this date. The system of precipitation at first adopted by the Rivers Committee consisted of treatment with lime and alum cake. This treatment was discontinued on the recommendation of Sir Henry Roscoe, and treatment with lime and protosulphate of iron substituted. This treatment has been continued up to the present time. The effluent from the tanks is, with the exception of a very small quantity, passed direct into the canal. A small quantity is treated on 26¼ acres of land filters. The filtration of the effluent in four small experimental filters is still continued, and the results are carefully recorded." Then follows a detailed account of what the deputation saw at the places visited and of the modes in use for the disposal of sewage effluent; also a report of the circumstances under which the Committee came to be reconstructed. The following report is given by the Effluent Sub-committee:—"The sub-committee at its first meeting agreed upon the following basis of inquiry: (*a*) That the means of solving the sewage questions of Manchester lay on the lines of purification; (*b*) that the practicability, cost, and efficiency of artificial filtration should have their first consideration; (*c*) that every known system of treatment should be fairly considered, and that certain places should be visited for that purpose; (*d*) that all information which would lead to greater efficiency in the precipitation process be obtained. Your sub-committee have had numerous meetings, and they have visited many places. A descriptive account of these visits, compiled by the City Surveyor, is now sent to each member of the Rivers Committee. The Effluent Sub-committee have given their best consideration to every system and suggestion that has been brought before them. Over sixty different schemes and appliances and about fifteen suggestions have been fully considered In some cases opportunity was afforded to persons to explain their schemes before the sub-committee. Visits to the works at Davyhulme have been made in order to familiarise your sub-committee with the possibilities of adaptation and improvement, and also with the true nature of the difficulties to be overcome. The general conclusions which your sub-committee concur upon are—(1) That filtration by land is altogether impracticable, as no part of the land at Davyhulme, nor any land obtainable in the district, is suitable for such process, and your sub-committee have ample proof of this by the experiments which at great cost have been made upon twenty-five acres of land at the works. Your sub-committee desire to say that wherever they have visited the works of other authorities in all cases the land filtration is ineffective, and is in many cases to be superseded by artificial methods of filtration. Your sub-committee think that the imposition of conditions by the Local Government Board which make the purchase of large areas of land for filtration compulsory, should be removed. They suggest that all municipal authorities should combine to secure the removal of these impossible conditions by the appointment of a Royal Commission to investigate recent progress in sewage treatment. They believe these conditions were based upon the report of a former Royal Commission on information now obsolete. (2) That no practicable system of precipitation by chemicals alone has been laid before them which will meet the requirements of the Mersey and Irwell Joint Committee. (3) Your sub-committee agree that of all the methods of artificial filtration, that nearest to natural action and most reasonably 'practicable and available' for adoption is the biological filter, or bacteria bed, such as may be seen in operation at many of the places visited. Your sub-committee have considered the cost, capacity, and endurance of such biological filters or bacteria beds. They have instructed the City Surveyor to submit a plan, showing how a portion of the land at Davyhulme may be adapted for this purpose and used in connection with our present plant. They recommend the immediate construction of four acres of bacteria beds, and that the best available expert assistance be obtained in regard to the construction and working of the same. After completion of this area, and proof of cost, capacity, and efficiency, the progressive extension of the same to be made on an area large enough to meet the requirements of the daily normal flow of sewage. Your sub-committee hope that such a scheme will receive the sympathy and approval of the Joint Rivers Committee, and (considered in conjunction with the many improvements now being made by the Corporation for the better treatment of the sewage) secure its concurrence in asking for a lengthened extension of time from the stipendiary magistrate at the County Police Court on the 25th of this month. The following contracts are now in process of execution at the works:—Superstructure screening chamber, £1,962.; roofing, ironwork, etc., £1,025; catchpits and case of screening chamber, £3,680; conveyors and agitators, £623.; movable screens, £1,192.; ash elevators and fixed screens, £1,480.; total, £9,962. These improvements, when completed, will render the work of purification at Davyhulme easier and more efficient. Your sub-committee consider it necessary to take action in relation to certain liquid refuse which in its crude form is not admissible into the sewers Your sub-committee also desire to remind you that the construction of the proposed bacteria beds should be proceeded with at once. The City Surveyor's estimate for constructing 37 acres of bacteria beds varies from £80,000. to £127,000., according to depth and mode of construction." The cost of working and maintenance cannot be estimated, as no place visited by the sub-committee has yet applied this principle for a sufficient length of time on such an extensive scale as to provide a basis of cost.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Gas. G. F. Dinsmore. 5,578. March 7.
Cover for Sewage Tanks. H. Grimshaw and J. Barnes 5,628. March 8.
Apparatus for Treating Sewage. D. Cameron, F. J. Commin, and A. J. Martin. 5,671. March 8.
Electrodes for Secondary Batteries. H. Pieper. 5,703. March 8.
Manufacture of Nicotine. R. Mackill. 5,747. March 9.
Grinding, etc., Machinery. P. N. Askham, W. Wilson, and W. G. Slack. 5,769. March 9.
Obtaining Phosphorus. Electric Reduction Co., Ltd. 5,796. March 9.
Ozone Apparatus. W. Elworthy. 5,798. March 9.
Deodorizing Cocoanut Oil. J. C. W. Stanley. 5,807. March 9.
Artificial Leather. E. Heyl-Dia. 5,826. March 9.
Illuminating Gas. F. H. Smith. 5,941. March 10.
Treating Zinc Ores. S. O. Cowper-Coles. 5,943. March 10.
White Lead from Lead-bearing Ores. S. O. Cowper-Coles. 5,944. March 10.
Manufacture of Carbon. J. Hargreaves. 6,013. March 11.
Electro-deposition of Metals. J. Holloway. 6,028. March 11.
Manufacture of Sulphur Trioxide. O. Imray. 6,037. March 11.
Drying Organic and Inorganic Substances. J. Mc Culloch. 6,076. March 12.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Apparatus for Cooling, Heating, and Mixing Liquids or Chemicals, Drying or Superheating and Condensing Steam. J. Whiteley, Clowes-street, Chapel-street, Salford. Eng. Pat. 3,627. February 11, 1897.

A square or other shaped hollow axis, lying in a horizontal plane, is built up of sections. To ensure the accurate fitting together projections may be cast on the sections or a frame interposed, which fits into a part of each section. These frames contain ports for connecting the pipes about to be described. Into the faces of each section (four in number in the case of a square) the ends of an inverted ∩ tube are fixed so as to form a cross. By means of the ports referred to a liquid can circulate through the pipes of one section and then on by a cross pipe to the next section. Thus a number of such sections bearing four ∩ pipes are built up, horizontally, and held together by bolts, &c. They are then revolved and caused to dip into a water tank for cooling or condensing purposes, or hot gases are caused to circulate round the pipes in the case of feed-water heating, &c. This arrangement is really a simplification of patent 19 383, 1894, granted to the patentee and R. H. Turner. There are nine figures.

Improvements in the Art of Producing Calcium Carbide. J. Leede, 915, Chicago Avenue, Minneapolis, U.S.A. Eng. Pat. 32. January 1, 1898.

Quick lime is mixed with coal, tar, pitch, or other bituminous substances, and retorted to drive off the light hydro-carbons. The resulting coke-like product seems to contain traces of carbide, and has nearly the same conductivity as pure carbon. When heated in the electric furnace, the carbide is formed at a lower temperature, and obtained as a crystalline product free from ash and like impurities, always present when coke or coal dust is used.

Process for the Purification and Separation of Nitrate of Ammonia. R. N. Lennox, Rosebank Works, Fulham, London, S.W. Eng. Pat. 5,483. March 2, 1897.

Equivalents of ammonium sulphate and a nitrate capable of double decomposition, such as nitrate of soda, are mixed in the dry state and heated in a retort under a vacuum. The temperature should not be allowed to exceed 230°C, and the upper parts of the retort should not be superheated. At about 200°C ammonium nitrate distills off and is condensed. The gases are passed through a scrubber charged with a strong solution of ammonium nitrate or other suitable solvent, thus arresting any products of dissociation before the gases reach the exhauster. Any nitrous oxide in the exhaust from the latter may be condensed into the liquid state. The higher the vacuum the better the result. A steam jet may be used where necessary to prevent stoppages in the ammonium nitrate condenser, or connecting pipes.

Improvements in and connected with the Saponification of Fatty Matters, and in the Manufacture of Glycerine. E. G. Scott, 67, Lord-street, Liverpool. Eng. Pat. 8,796. April 6, 1897.

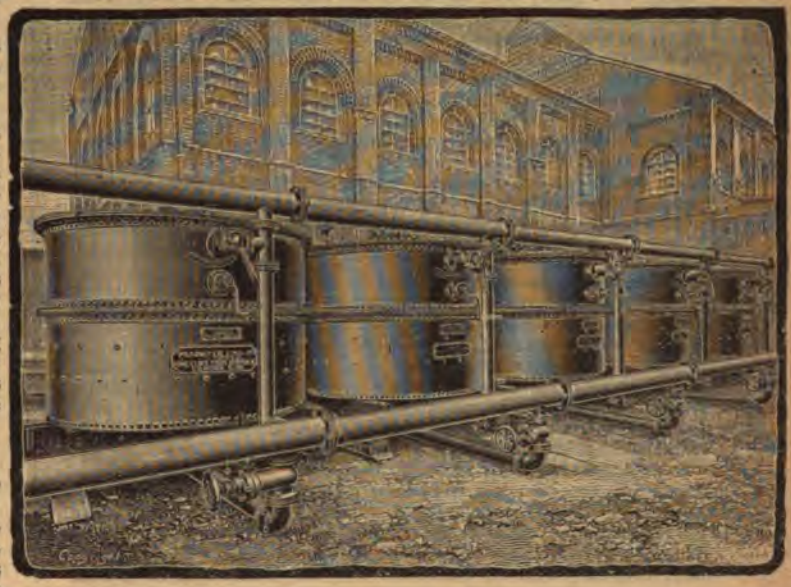
As in the usual lime process, much of the glycerine water is retained in the interstices of the lime soap itself, as much of the glycerine water, as is possible, is run off and the lime soap passed through smooth or toothed rollers, according to its consistency. More glycerine water escapes during the crushing process, and the residual portion is removed by a centrifugal machine or vacuum filter. The usual acid treatment is then proceeded with. In this way the concentration process is much simplified and economy in glycerine effected.

Improvements in the Means or Method of Manufacturing Ferric Sulphate. W. Wyld, Frizinghall Chemical Works, and J. H. Cox, Borough Surveyor, both of Bradford, Yorks. Eng. Pat. 8,335. April 1, 1897.

Freshly made vitriol is sufficiently hot to dissolve burnt pyrites and form ferric sulphate. When the vitriol is made from spent oxide, the resulting hot oxides from the "burners" can be treated with cold acid, but still preference is given to hot acid. In practice, about 560 lbs. of 144° Tw. acid (taken direct from the Glover tower) are mixed with 2¼ cwt. of iron oxide, in a circular iron pan. The whole is stirred for from seven to ten minutes, until the mass begins to thicken. The reaction is then allowed to complete itself. Any sulphurous fumes and dust given off may be "draughted" away or otherwise dealt with.

THE "TORRENT" FILTER.

We illustrate herewith a set of five large "Torrent" filters that have recently been installed at a large paper works in Scotland by the Pulsometer Engineering Co., Ltd., of London, S.W. The filters have been made in wrought iron, and owing to the occurrence of certain local difficulties in connection with their erection, were made in



halves so as to facilitate their being put into position. Conjointly they have a filtering capacity of 24,000 gallons per hour, and are working continually day and night. Owing to the quality of the paper made at this mill the purity of the water is of exceptional importance, and in this direction we understand the filters have given every satisfaction since they were started.

The Aston Chemical Co.—The businesses of the late Mr. Wm. Lister, Stratford-place and Kingston-road, Birmingham, have been purchased by the Aston Chemical Company.

The Petroleum Committee.—The Select Committee on Petroleum met at the House of Commons on Monday to elect a chairman (in the room of the late Mr. A. J. Mundella), and to decide on the course of procedure. Mr. Jesse Collings, the Under Secretary of the Home Office, was chosen as chairman, and it was decided to take the evidence of Colonel Sir V. D. Majendie, the chief inspector of explosives, at the first meeting of the Committee on Friday. It is understood that no further evidence will be called, and that the Committee will at once proceed to consider their report.

Reports of Companies.

UNITED ALKALI CO., LTD.

FOREIGN COMPETITION THE CRUX.

THE annual meeting of the United Alkali Company, Ltd., was held at the Law Association-rooms, Cook-street, Liverpool, on Friday last week. Sir Charles Tennant, Bart. (president of the Company), occupied the chair. Included in the large attendance were Colonel Sir David Gamble, Bart., C.B, and Mr. Holbrook Gaskell (vice-presidents), Mr. John Brock (chairman of directors), Lieut.-Col. James B. Gaskell, Messrs. C. E. Barlow, Ernest Baxter, J. C. Gamble, William Gamble, Holbrook Gaskell, jun., D. M'Kechnie, E. K. Muspratt, George Pilkington, Robert Shaw, and Philip J. Worsley (directors), John E. Davidson, John A. E. Rayner, James Tennant, and J. R. Wylde (managing directors).

The President, in opening the meeting, said he could not help saying that the pleasure he generally felt in presiding at the annual meeting of the Company was on this occasion not without alloy, because they were met to receive a disappointing—he might almost say a depressing—report from the directors. After paying interest upon the debentures, and the somewhat onerous, he thought, interest upon the preference shares—an interest which he should be very glad to see in some fair and reasonable way modified or mitigated, a very difficult thing to do, however—(laughter)—with these preference shares there did not remain sufficient to warrant the directors in paying a dividend to the ordinary shareholders. This was very disappointing to the shareholders, and perhaps more disappointing to himself than to anyone, because he was the largest shareholder. He had never sold a share. On the contrary, he had added largely to his holding, at, he regretted to say, very much above current prices. The reasons for this disappointing state of things were pretty well known to the shareholders. Firstly, severe competition. That they were prepared to meet; but they could not meet, except in a way that required much thought and consideration, the import duties that had been imposed upon our products by America and Russia. These were matters that would be dealt with by their esteemed chairman, whom he would now ask to move the adoption of the report.

Mr. Brock, in moving the adoption of the report and statement of accounts, said:—The past year, the work of which we review to-day, has been one of great difficulty. At the time of holding our last annual meeting there was much in the commercial outlook to give cause for anxiety, especially with regard to our trade with the United States.

HOSTILE TARIFFS.

The American manufacturers of alkalies were fighting each other, with the consequent result of a heavy fall in prices. Efforts were being made to carry through Congress a tariff which should be not only protective as regards the American manufacturer, but practically prohibtive as regards the foreign manufacturer. Not only was it sought to further protect goods being at the time made in the States to some considerable extent, but also to inflict imposts on products which up to that moment had not been made there, or only in an experimental way. These efforts were, I am sorry to say, largely successful, and a tariff came into force on August 1st, which increased the duties by 50 % on articles of our manufacture already dutiable, and imposed excessive duties on other articles which up to that time were admitted duty free, and which had not hitherto been made in the country, or only to a limited extent. This change was a very serious one for our Company. As our trade lay very greatly with the United States, it has, of course, for the present considerably circumscribed our business with that country, and we have had to carefully consider what steps we should take in order to retain it, for we certainly do not mean to retire from that market. Let me give you

ONE OR TWO ILLUSTRATIONS

of what I have stated as regards articles which we have hitherto largely exported to the States. *Caustic soda*, up to the time of the Dingley tariff, paid a duty of £2. 6s. 8d per ton; the new tariff has increased this by 50 per cent., and it is now £3. 10s. per ton, or about 70 per cent. on the f.o.b. value of the article. On *soda ash* the old duty was £1. 3s. 4d. per ton; the new tariff has increased this by 50 per cent., and it is now £1. 15s. per ton, or equal to about 150 per cent. on the f.o b value of the article. On bicarbonate of soda the old duty was £2. 6s. 8d. per ton; it is now, under the new tariff, £3. 10s. per ton, an increase of 50 per cent., or equal to about 70 per cent. on the f.o.b. value. But there are a number of articles not previously taxed, and which up to this moment can only be said to be manufactured experimentally in the States, which have had imposed upon them under the new tariff duties which in some cases are practically prohibitive. I will name three -chlorate of potash, chlorate of soda, and bleaching powder. *Chlorate of potash* has had a duty imposed upon it of £11. 13s. 4d. per ton, equal to about 45 per cent. on the f.o.b. value of the article. Chlorate of soda pays a duty of £9. 6s 8d., equal to 30 per cent. on the f o.b. value; while bleaching powder pays a duty of 18s. 8d. per ton, equal to about 18 per cent. on the f.o.b. value.

NOT ONLY THE STATES.

Nor are things much better for us in some of the countries of Europe. Take Russia, for example, which in the past has been a large and valuable market; the present duty on caustic soda is £8. 16s. 8d per ton, or 150 per cent. on the f.o.b. value; bleaching powder, the duty on which is £6. 18s. per ton, or about 125 per cent. on the f o.b. value; on soda ash the duty is £5. 8s. 4d. per ton, or 200 per cent. on the f.o b. value. On salt, an article which may be claimed as a prime necessity of life both for man and beast, the duty varies from 19s 5d. to £2. 19s. 2d. per ton, according to quality and port, equal to from 200 to 400 per cent. on the f.o b. value. In France and Germany we have also heavy duties to face, though not so excessive as those I have instanced; still, sufficiently high to give the foreign manufacturer a strong position as against his British rival. It is evident, therefore, that if we are to retain this important portion of our trade—and we mean to retain it—we must follow the example of some of our competitors, and have an interest in manufacturing in the countries themselves. In doing this we are simply holding our own, and following the same line of policy which many British manufacturers in various branches of industry have found it necessary to pursue in order to keep their trade, and which they have adopted with very satisfactory results to themselves. We have for the present made arrangements with our Continental competitors by which we are able to retain a portion of our Continental trade in alkalies at fairly remunerative rates. We cannot say that, as yet, these arrangements possess that character of permanency and are of that satisfactory nature which we desire; indeed, in respect of some articles we manufacture, no such arrangement has yet been possible, and we have to-day to face the fact that a German syndicate has bought up the whole manufacture, over two or three years, of one important article made by one of our competitors in this country, and is offering it against us in our own markets. To meet this competition we have decided to reduce our prices, under certain conditions, not only on spot sales, but also on contracts running through the present year, some of which were made before we knew of the action of the syndicate. It may be said that we were not bound to reduce prices on these contracts, which is true; but we felt it was only right, in these circumstances, to meet our customers, many of whom were old friends, in a fair and liberal spirit. This action of the German syndicate has, we consider, given us just cause of complaint; for, while doing themselves no good, they are doing us much harm. It may be asked, "How long is this state of things to continue? How long is the British manufacturer to be handicapped in this manner by foreign countries?" At present, the only way to improve our position is, as I have previously said, to have an interest in manufacturing operations in countries hedged about with these high tariffs. This we are doing. It requires careful and anxious consideration, and the expenditure of much time and money; hence, we must husband our resources, and bring all our experience and skill to bear on this, for us, new departure, but a departure which we have every confidence will prove successful and profitable.

A SURPLUS DUMPING-GROUND.

Then we have to meet another system of competition on the part of the foreign manufacturer, which consists in dumping into this market his surplus production. Every manufacturer knows the importance of keeping his plant fully employed if he is to keep his costs low. The foreign manufacturer is protected by a high tariff, and on that portion of his production which is consumed in his own country he gets a large profit. But his country is not able to consume all he makes; yet, in order to keep his costs low, he must keep his plant running full. He therefore dumps his surplus into this country, where he has no hostile tariff to meet, content if on this portion of his production he realises the bare cost of manufacturing or perhaps a little less, the British manufacturer having to bear the brunt. What we and many other manufacturers are suffering from to-day is, not that we cannot manufacture as cheaply as our competitors—we can, and do—but that our trade is contracted by our being shut out of market after market by high tariffs and drastic protective systems. In fact, since this company was formed a great revolution has passed over the alkali trade, and few but those who sit at the directors' table can properly appreciate the

GREAT CHANGES WHICH HAVE TAKEN PLACE.

Old markets which were regarded as permanent have been practically closed, and new outlets have had to be sought and opened out. Old methods have had to be abandoned in favour of new, and we can only hope to be ultimately successful by being alive to these changes, and meeting them with a determination to be abreast of the times in every way. With patience we hope to recover a fair share of the trade which, for the present, from the causes I have named, we have lost, and thus raise the output of our works to its normal proportions. At home and

in the foreign markets still open to us the volume of our trade is satisfactory. In the matter of the cost of manufacture we never did better, nor so well, as we have done during the past year. It is a point to which we have given the most unremitting attention and care; processes are constantly being improved and economies introduced, and we have increased the efficiency of all our manufactories by applying to each the highest standard of working which the best experience and technical ability show to be possible. I stated last year that we had acquired premises in London for the manufacture of soda crystals, and for the storage and distribution to our customers in that district of other articles of our manufacture. This is now in profitable operation, and has so far realised all we expected from it.

RECENT DEVELOPMENTS.

We have during the past year placed upon the market two new articles—cyanide and acetic acid—both of which promise to yield us a fair return. Our works have been kept in a thorough state of efficiency and repair, the cost of which has been defrayed out of revenue. If you will now turn to the accounts you will notice that there is no change in our share capital and debenture stock. The half-year's debenture interest of £60,416. 13s. 4d. being paid on the 1st of January this year, appears, as usual, as a debit. The debts owing by the company are £267,727 15s. 11d., or £55,347 18s. 1d. more than last year. The reserve fund account stands at £707,780. 19s. 1d., £650,000. being the depreciation portion of the fund, and the balance of £57,780. 19s. 1d. remaining in the general account. On the other side of the account we have additions to property, plant, freeholds, etc., £142,619 17s. 2d., which, after deducting the amounts realised by sales of obsolete plant and property, and the amount written off for depreciation, leaves that account at £7,211,785. 18s. 5d., as against £7,145,112. 16s. 9d. last year. The stocks of manufactured products, raw materials, stores, and other articles which have been carefully valued, and written down where necessary, stand at £832,958 8s. 3d., or £56,472. 13s 11d. less than last year. The debts owing to the company amount, with the outstanding consignments, to £327,932 17s. 6d., or £840. 16s. 8d. more than last year. Money on deposit at the bank, and investments, is £219,464. 17s. 4d., or £90,642. 3s. 8d. less than last year. Cash at our bankers, in hand, and at the head and district offices, with bills receivable, amounts to £130,043. 13s., or £52,824. 8s. 2d. more than last year. Turning to the profit and loss account the gross profit has been £381,844. 16s. 7d., which with interest on bank deposits and investments, £6,233. 6s. 1d., and £452. 2s. 6d. for transfer fees, makes a total of £388,530. 5s. 2d. On the other side of this account, directors' fees are £400 less, income tax £4,496. more, and bad debts £2,406. less. They would see that their bad debts were only £700. The net profit, after payment of debenture interest and all other charges, is £213,363. 11s. 5d., as against £288,070. 5s. 3d. in 1896. This reduction in our net earnings is to some extent owing to severe competition, but mainly to restriction of markets by prohibitive tariffs. Almost every day sees a new process in the chemical trade, and especially is this true of electrical processes, which many people seem prepared to believe in to any extent. All such processes, however, require the most careful expert examination, because few of them are of value as a means of producing cheaply; in fact, scarcely any of those at present working have been run on a manufacturing scale a sufficient time for it to be accurately known what is the real wear and tear, and therefore the real cost of manufacturing by them. Still they have undoubtedly to be reckoned with, and we are ourselves proceeding cautiously in that direction. I cannot, sir, close these remarks without paying a tribute of deepest respect to the memory of the late Dr. Hurter. (Hear, hear.) By his sudden and premature death our company has lost an exceptionally able and faithful colleague. As chief of our scientific department we necessarily had to depend very largely upon his skill and judgment in determining the many intricate scientific questions which are ever cropping up in a business like ours. His sound judgment, ripe experience, and profound scientific ability never failed us. His loss is great, not only to our company, but to the whole scientific world. We shall not soon see his like again. To his widow and family we tender our sincerest sympathy.

THE DIVIDEND.

It was then moved "That the report and statement of accounts be received and adopted, and that after carrying forward £22,188. 19s. 11d. the following dividend be and is hereby declared out of the profits which have accrued during the twelve months ending the 31st December last, such dividend to be payable on the 22nd inst., namely, on the £10. preference shares a dividend of 7s. per share less income-tax, making with the interim dividend paid in August last a dividend of 7 per cent. per annum."

Mr. E. K. Muspratt seconded the adoption of the report and statement of accounts, and said he could only emphasise what the chairman had already said as to the cause of their not being able to pay a dividend on the ordinary shares. It was simply on account of the action of the Russian and American Governments in putting practically prohibitive duties upon their manufactures. That was an action over which they had absolutely no control. They might, of course, approach their own Government, and ask them out of the general tax of this country to give them sufficient to pay an ordinary dividend to their shareholders. (Laughter and a Voice: "Reduce some of your fat salaries.") That, however, he at any rate, as a staunch Free Trader, would certainly not do, and would not countenance. The other difficulties they had to contend with mainly arose from those new processes which were continually coming before the public. Everybody nowadays, after having neglected electricity for a long time, thought there was some magic in electricity, and that goods could be produced with electricity provided they had electricity to manufacture them with. This, however, was not the case. They had examined, to the best of their ability, every new process that had been brought out, but they had not yet come to the conclusion that they could manufacture cheaper than their company could.

ELECTRICAL VENTURES.

They must remember this, that, even supposing that every one of these electrical processes were bad as a manufacturing process, at the present time, having regard to the present spirit of the public, who were willing to invest money in electrical industries, these processes would be continually used by companies who could go on putting manufactures on the markets in competition with themselves. The papers published a good deal about the inauguration of these companies, but very little notice was taken as to how many of them disappeared after a short time. It was a fact that many of these companies during the last five or six years had been worked on electrical processes, and not a single one of them, he thought, up to the present time, so far as their large manufacturers were concerned, had earned a profit. He did not say they would not earn a profit in the future. If they did, they in their company felt that they had ability enough to meet them by electrical processes if they thought it necessary. As the chairman had said, they took advantage of every possible means to reduce the cost of their manufacture. That was the only way they could hope in the future to give a satisfactory return to their shareholders.

SOME QUESTIONS.

Mr. West asked what was the realised loss on the sales of properties disposed of by the company during the past seven years. Had any portion of the £142,619. expended in 1897 in new works been spent in America? Was the company committed in perpetuity to the agreements made with other companies regarding the production of alkalies? Was it a fact that they limited their production owing to these agreements? And also was it a fact that the cost of distributing their goods through agents was heavier than by the old way of paying 1 per cent. to exporters and middlemen? He quoted figures in support of his contention that the slender reserve of last year was reduced by £9,000., and after seven years of building up they had now only 1 per cent. of reserve on the paid-up capital of the company, exclusive of the debentures, the actual present reserve being only £57,780. He said the golden prophecies of their president and chairman, when the company was started seven years ago, had not been fulfilled, and he thought there must be something wrong with the policy of the board of directors, considering that other companies were paying handsome dividends. The question of policy was, of course, in the main a question for the board, and one with which shareholders would not presume to interfere, but after seven years' trial of the board's policy with such deplorable results, he hoped the directors were prepared to reconsider their whole attitude towards the old methods and channels of distribution.

Mr. Thompson asked if any new works were being erected in Detroit, United States of America, to save the tariff.

THE ANSWERS.

Mr. Brock, replying to these and other questions, stated that for their obsolete plant the sum of £218,403. had been realised. This had left a considerable margin, which had been provided for out of the depreciation fund. In addition, they had spent more than £600,000 in extension of plant. They had of course abandoned a very considerable amount of plant which at the start of the company nobody could have said would have become obsolete by this time; but they had to prepare themselves for this. They had built fine works at Fleetwood, which were profitably manufacturing alkalies by the newest process, such as that used by Brunner, Mond, and Co. It was true the company did not sell their goods right and left through anybody, as was done under the old *régime*. They had concentrated their work, but practically anybody coming to their sales office for goods could get them. Satisfactory agreements had been made with their Continental rivals. But for these arrangements their trade would be far more limited than it was at the present time. These arrangements were not perpetual, and could be ended at very short notice if the company thought desirable.

THE AMERICAN PROGRAMME.

The company was preparing to manufacture goods in America, where Brunner, Mond, and Co. had been manufacturing for years, and to that

extent getting the benefit of the present high tariffs. He could honestly say that in all these arrangements the directors had studied absolutely, and the workings had shown it, the best interests of the shareholders. The sum of £142,619., which had been spent in additions up to 31st December last, undoubtedly did include a payment on the American account. (A Voice: "To what extent?") There he must draw the line, because he did not want to tell their friends in America all that they were doing. Replying again to Mr. West, Mr. Brock said that there was a pretty free market for their goods to-day. They and other companies had agreed that, whilst they would supply the market fully, they would not manufacture more than the market would take.

The report and accounts were then passed unanimously.

The President moved that Messrs. H. Gaskell, junr., Duncan M'Kechnie, and Philip Worsley, the retiring directors, be re-elected directors of the Company. Sir Charles added that Mr. Baxter, who had been a very valuable director, was also retiring, and did not seek re-election, which they had cause to regret. The gentlemen named had devoted an enormous amount of work in the shareholders' interests, and were thoroughly conversant with trade affairs. He (Sir Charles) had had a great deal to do with various public companies, and he knew no company in which the directors gave more attention to, or were more qualified to, protect the interests of the shareholders than the directors of that Company. In face of the many difficulties they had had to contend with they had done extremely well, and they had made a very good profit considering the difficulties of the past year. The course they were pursuing would, he was sure, lead to the benefit and reinstatement of the Company to the position of a profit making company. In the end he felt they would not only hold their own, but they would come out triumphantly from their touch with other companies

The Chairman seconded the motion, and said they could not have had three better directors, all of them being able men and assiduous in the discharge of their duties.

The resolution was carried.

Messrs. Stead, Taylor, and Stead, T. W. Read and Co., Finney and Son, and Monkhouse, Goddard, and Co. were re-elected auditors.

The President moved a vote of thanks to the chairman. They could not, he said, have had a better chairman than Mr. Brock. He was competent in every respect, both as regards his technical, practical, and business qualities, and the shareholders owed him a great debt of gratitude for the unremitting attention which he gave to their affairs.

Mr. P. Speakman having seconded the resolution, it was carried unanimously.

The Chairman, in reply, assumed that the vote of thanks were not intended solely for himself, but also for the board of directors. They had undoubtedly a very valuable board of directors. He had had a very large experience in the alkali trade, and a very large company experience, and he was convinced they could not have a body of directors more competent to discharge the affairs of the company than those they had on the board that day. They were all tried men, who knew what they were about, and they were, furthermore, men who had a large stake in the company. They might depend upon it that that fact alone would be a guarantee that they would do their best. Personally, he was greatly indebted to his colleagues for the assistance they had rendered him. He was not a strong man physically, and he sometimes felt that the work was a burden, but his heart was in it, and he trusted he would try to be in the future, as in the past, a faithful servant of the United Alkali Company.

Sir David Gamble proposed a vote of thanks to Sir Charles Tennant for presiding. Sir Charles had been with them ever since the establishment of the company, and although he did not pretend to work as some of their directors had done, by giving four or five long days a week to the affairs of the company, he always kept himself acquainted with all the company's affairs They all knew his heart was with them, and that the interests of the company had his constant consideration. Sir Charles had fortunately been able to preside at nearly all their meetings there, and all of them knew how well he had occupied that position, how his business capacities and knowledge of public affairs had made their meetings so harmonious, and had made the constitution of the board run so smoothly during several years

Mr. P. J. Worsley having seconded, the motion was carried.

Sir Charles Tennant, responding, said he was very proud of being the honorary president of the company. They might all rely upon it that his heart was thoroughly with the interests of the company, and he would be a faithful and hopeful president so long as they would have him.

The proceedings then closed.

THE BIRMINGHAM CARBIDE COMPANY.

An extraordinary general meeting of the Thornton-Scarth Automatic Lighting Syndicate, Limited, will be held at the Grand Hotel, Birmingham, on Monday, the 28th day of March, 1898, at three o'clock in the afternoon, for the purpose of receiving the report of the directors of the acquisition by the syndicate of certain inventions by Mr. Joseph Bastick relating to the manufacture of carbide of calcium, together with the patent rights in respect thereof, and a contract for the exclusive services of the said Joseph Bastick for a period of seven years, and also of the promotion and successful formation of a company, called the Birmingham Carbide Company, to take over from the syndicate the said rights in relation to the manufacture of carbide, together with the services of the said Joseph Bastick in consideration of the allotment to the syndicate or its nominees of 12,500 ordinary shares in the Carbide Company. The subjoined resolutions will also be considered :—

"(1.)—That 2,000 ordinary shares of £1. each in the Birmingham Carbide Company be voted to Messrs. Hymen Levetus and E L. Levetus, the managing directors of the syndicate, as special remuneration for their services in obtaining and handing over to the syndicate the above-mentioned rights in the manufacture of carbide, and the benefit of the contract with the said Joseph Bastick, and for special services rendered by them in the promotion of the Carbide Company to take over the same.

"(2.)—That in pursuance of the contract entered into with the said Joseph Bastick, 500 ordinary shares in the Birmingham Carbide Company be voted to trustees for the benefit of the said Joseph Bastick, during his period of service with the Carbide Company, such shares to rest in the said Joseph Bastick absolutely on the due fulfilment by him of the said agreement, and in default, the same to be forfeited to the syndicate.

"(3.)—That the remaining 10,000 ordinary shares in the Carbide Company be distributed amongst the shareholders of the syndicate, whose names shall appear in the register of members on the date of the said extraordinary general meeting in the proportion of one share in the Carbide Company to two shares in the syndicate."

WILLANS AND ROBINSON, LIMITED.

The report of the directors for the half-year ended December 29th, 1897, states that, after writing off as depreciation from plant, patents, etc, the sum of £5,277., and paying interest upon debenture stock, the balance to the credit of profit and loss account for the half-year (including £1,859 brought forward) is £16,053. The directors propose that a dividend be paid at 8 per cent. per annum upon the ordinary shares. The amount payable to the original directors, in accordance with the articles of association, is £1,832, leaving a balance of £5,512 From this the directors propose to carry £2,000. to the debenture redemption fund, and £1,500 to the reserve fund (against £1,000. last half-year), leaving a balance of £2,012. to be carried forward.

ANGLO-SICILIAN SULPHUR COMPANY, LIMITED.

An interim dividend on the preference shares at the rate of 6 per cent. per annum (calculated on the amount per share paid up) for the half-year ended January 31st will be payable on the 26th inst.

BOWMAN, THOMPSON, AND CO., LIMITED.

The annual report states that during the past year the works were fully employed. The net profit for the year is £29,260. The directors recommend a dividend at the rate of 7 per cent. on the preference shares and 7½ per cent. on the ordinary shares, leaving a balance of £5,256. to be carried forward.

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

THE occasion of the annual meeting of the Nottingham section of the society was taken advantage of last Saturday to give a complimentary dinner to Dr. Clowes as a farewell from the members of the section on his leaving the city to take up the onerous duties of chemist to the London County Council. Sir John Turney presided at the dinner, which was held at the George Hotel, and the company numbered representatives from almost every town within the district covered by the section. Nottingham naturally contributed the largest contingent, including Messrs. R M. Caven, H. Forth, Dr. Stanley Kipping, F.R S., F. D. Mordle, J. M. C. Paton, S. J. Pentecost, Dr. J. J. Sudborough, S. R. Trotman, Ed. Turney, G J. Ward, Jos. T. Wood, etc. From Burton on-Trent, besides the chairman of the section, Mr. James O'Sullivan, who acted as vice-president, there were Messrs. Adrian Brown, F. E. Lott, C. G. Matthews, and A. L. Stern. Derby was represented by Messrs. L. Archbutt, F. J. R. Carulla, W. S. Herriot, H. J. Staples, and C. Taylor. There were also present—Mr. W. G. Johnston and Mr. Warwick (from Newark), Mr. S. F. Burford (Leicester), Mr. Loxley Meggit (Sutton-in-Ashfield), and

Some letters of regret for inability to attend were read by Mr. on. secretary), including one from Mr. C. O'Sullivan, F.R.S., s prevented from being present by illness, and another from L. Whiteley.

oast of "Our Guest" was proposed by Mr. J. M. C. Paton usual loyal toast had been honoured. Mr. Paton, in proposing h of Dr. Clowes, drew attention to the important work that he for so many years in Nottingham, where he had been engaged ng students who had distinguished themselves. As regarded ection with the Nottingham section of the Society of Chemical , it could be said that Dr. Clowes was its founder, and the sec- indeed been fortunate in having such an enthusiastic worker to during its early years The section, and also the city, would ways feel the loss of Dr. Clowes, but the wonder was that he with them so long, and devoted so many of the best years of the comparatively unremunerative work of teaching, when he ve derived so much more material profit from his abilities by them to technical or commercial pursuits requiring chemical ge. Mr. Paton thought this showed how much his heart had th them, and sincerely wished him success in his new and t sphere of labour.

owes, in acknowledging the toast, said he thanked them very leed for making this occasion special to himself, and that the inner should be revived connecting with it his name. He lained how the section originated in 1885, some few years formation of the parent society. Spurred on by the success ions in other centres were meeting with, it was thought one formed in Nottingham. Sir S. Johnson co-operated with framing the bye-laws of the section, and how well the work was evidenced by the fact that they had undergone remark- le change. The first gathering was of a social character. hands converted the chemical laboratories into a veritable for the occasion. The cupboards usually devoted to very purposes were redolent with the sweet scent of flowers, and r a scene was presented that was not likely to be repeated, oodwork of the benches was all bran new. The place was , and the occasion remained as a bright remembrance. at time he could say that he was assisted right royally helpers, and the section progressed until, in 1890, the neeting of the whole society was held in Nottingham, when ived their brethren of the other sections. On that occasion Turney was their chairman, and by his hospitality and the which he rendered, together with that of other willing notably Mr. Archbutt, the meeting was a record one. The as again coming to Nottingham, and he hoped this meeting so be a good one. As an evidence of the enthusiasm that the early workers, including Messrs. Lewis T. Wright, J. M. , L. Archbutt, J. R. Ashwell, H. Forth, G. J. Ward, and ers, Dr. Clowes said that their success had caused people to hat it was very curious that a town like Nottingham, so devoid chemical industries, should have started a section that had not d, but done good work; whilst sections more favourably had gone under and disappeared. It was true that work of had been carried on, and now they not only drew members by, Burton, and Leicester, but met in those towns, thanks to s of Messrs. Paton and Carulla. Of course, as time went on expect to find the section a changed body. He was reminded instance, when, shortly after the opening of the laboratories ersity College, Sir Lyon (now Lord) Playfair called to . Dr. Clowes, happening to be out, on his return found "from Sir Lyon Playfair to his grand-student." Meeting n some time after, Dr. Clowes asked what the joke and was answered, "As Frankland was your teacher, ught him, you are my grand-student." Well, in the erations of members must succeed each other, and he ves) was not one of those who thought that societies of this could or should depend on one man. In regard to his election esidency of the society as a Nottingham man and his subsequent to London, he would only say that the circumstance enabled ve that attention to the duties of the office—the meetings of cil and various committees being held in London—which it ve been impossible to do had he been engaged with his pro- duties in Nottingham. In that sense he was a more useful than could have been the case otherwise.

arulla expressed the general regret that was felt at the loss ection had sustained by the removal of Dr. Clowes to London, s mitigated by the knowledge that he had been called to fill e most important posts that could fall to the lot of a scientific nely, to look after the health and welfare of the inhabitants of metropolis of the world.

n Turney, in responding to the toast of his health, which was in felicitous terms by Mr. J. O'Sullivan, referred to the cientific knowledge, which was becoming increasingly necessary dustrial operations, and he hoped that no efforts would be spared in this country to make up for past neglect. He felt with others the serious loss they had sustained by the removal of Dr. Clowes to another sphere of labour, but they could not blame him any more than they did those pastors who, after receiving "a call," severed their connection with their beloved flocks. He heartily wished Dr. Clowes every success.

During the intervals musical selections were given by members and friends. Mr. Lott sang a song on the dangers of drinking H_2O, which was a happy blend of the "chemical and the comical," and ran as follows:—

WATER.

Musical Formu'a - - - "NOT FOR JOE."

We indulge in beer and stout, and thus our wisdom show,
For chemists doubt express about potable H_2O;
Erring mortals every day drink a pint or so,
And whether pure or full of "ur-ea" they do not know.

Chorus—Oh, dear, no! H_2O! Don't disclose it, nobody knows if
H_2O, H_2O is fit for human drink or no.

A learned chemic gentleman once boiled a pint away,
And from the residue, he says, he made ammonia.
Nitrogen in water does this gaseous compound show;
We get, you see, some NH_3 from the N in the H_2O.

Chorus—Here's a go! in H_2O. Who'd suppose it? Nobody knows if
H_2O, H_2O is fit for human drink or no.

On Thursday evenings oft I hear Chapman, Wanklyn, and Co.,
Their views explain on finding N in a litre of H_2O;
Determinations very new these wise young chemists show,
And to analyse say they've found a way which Frankland doesn't know.

Chorus—Oh, dear no! H_2O! Boiling shows if Frankland knows it;
H_2O! H_2O! Can't be analysed in his way—oh, dear no.

With alkaline permanganate they make their water warm,
And then can tell the albumen to the tenth of a milligramme.
They find putrescent substances, and let the nitrates go;
And none but they know how, they say, to analyse H_2O.

Chorus—Oh, dear no! H_2O! They analyse it, no one else knows it;
H_2O! H_2O! Can't be analysed by everybody - oh, dear no.

Beware, then, of albumenoid ammonia, and urea;
With good anhydrous drink provide us, and let others sing of beer;
Let Theory with Practice join, and this great maxim know,
How blest is he who ne'er consents to drink any H_2O!

Chorus—Oh, dear no! H_2O! Not if we knows it, don't suppose it;
H_2O! H_2O! We don't drink it; oh, dear no.

J. P. BEALE.

MERSEY AND IRWELL JOINT COMMITTEE.

AN adjourned meeting of this authority was held in Manchester on Monday, Sir J. T. Hibbert presiding.—On the motion of Mr. T. W. Killick, seconded by Mr. Alderman Jenkins, Mr. Charles Brierley (Bury) was appointed vice-chairman; Mr. Noton, who was appointed to the office at a previous meeting, was unable to accept it on account of his health.—Mr. Killick submitted a report of the Consulting Sub-committee in reference to a letter from Sir Bosdin Leech, in which he asked that the proceedings against the Corporation of Manchester (which are to come before the Court on the 25th) should be adjourned in order that he might be able to attend on his return from Canada Mr. Killick said they wished to be as considerate as possible to Manchester and the Manchester Committee, and for that reason, and for that reason only, they were prepared, subject to the consent of the Stipendiary Magistrate, to agree to an adjournment He was informed that on Saturday the Manchester Corporation sent to members of the Mersey and Irwell Joint Committee copies of a report by the Special Rivers Committee. It was a very important report, and the Consulting Sub-committee had not yet been able to discuss it; and in consenting to an adjournment of the proceedings against the Corporation, they were in no way expressing an opinion as to the report.—The recommendation of the Consulting Sub-committee was adopted.—On the motion of Dr. Hewitt, seconded by Mr. Killick, Sir Henry Roscoe was re-appointed chemical adviser to the Committee for another year on the same terms as heretofore (£700. per annum). A counter motion was discussed, but it was eventually withdrawn.

THE NEW SMELTING WORKS AT ELLESMERE.—With reference to the new smelting works, which we recently announced were to be erected on the land adjacent to the Ship Canal (*C. T. J.* 462, p. 158), we are able to state that the works are being put up by the Smelting Corporation, Ltd., which has control of the Burnham Syndicate patents for treating sulphide ores of lead, zinc, silver, &c. The board consists of the Rt. Hon. W. Liddesdale, Mr. Cosmo Bevan (of Messrs. Barclay and Co), Mr. H. E. Allhusen, M.P., Mr. Wilberforce Bryant (chairman of Bryant and May, Limited), Sir Gerald Fitzgerald (deputy-chairman of the Anglo-American Telegraph Company), and other gentlemen.

Parliamentary Jottings.

MISTAKES BY PUBLIC ANALYSTS.

In the House of Commons last week, Mr. Duckworth asked the President of the Local Government Board whether he was aware that in the course of a fortnight three separate analyses of the analyst of Islington Vestry were proved to be inaccurate when the samples dealt with were referred to Somerset House, and whether the Local Government Board would take any steps to inquire into mistakes which so seriously affected the tradesmen against whom summonses were issued upon such mistaken certificates.

Mr. Chaplin: I have already taken steps to inquire into the cases referred to, and I find that the analyses by the public analyst of these cases did not accord with those made at the Government laboratory, and the cases were dismissed, the defendants being awarded costs. It would be impossible to go into the details of these cases, as represented by the vestry and the chief officer of the Government laboratory, within the limits permissible in an answer to a question. Under the existing law, the court, in any case where proceedings are instituted in respect of alleged adulteration, can, on the application of either party, refer the sample to the officers of the Board of Inland Revenue with a view to its being analysed and reported on by them, and in the cases in question the defendants had the benefit of this provision, but I have no authority to give any directions whatever in the matter. I understand that in one case there will be an appeal to the High Court.

BORDER RIVERS AND THE PREVENTION OF POLLUTION.

On Monday, Sir J. T. Brunner asked the President of the Local Government Board whether the Scottish County Councils immediately north of the Border were unable to act with the English County Councils immediately south of the Border for the purpose of the formation of joint committees for the prevention of the pollution of rivers; and, if so, whether he proposed to introduce a Bill of one clause, or whether he would favour the introduction of a Bill of one clause, to enable them to do so.

Mr. Chaplin said he was aware the question had been raised in regard to certain counties. He did not propose to introduce a Bill on behalf of the Government, but he would favour the introduction of such a Bill, or in Committee on the Rivers' Pollution Bill, if a clause were moved providing for the appointment of a joint committee, he would raise no difficulties.

Trade Notes.

Chairman of the Sewage Commission.—The Earl of Iddesleigh has been offered and has accepted the chairmanship of the Royal Commission which is about to be appointed to inquire into the various phases of the sewage question.

Non-Poisonous Glazes.—Of late the question of lead poisoning in the Potteries has been greatly to the fore, and it is an opportune moment to direct the attention of our readers to a work on "Leadless Glazes" that has been compiled by Mr. W. J. Furnival, of 16, Granville-terrace, Stone. The book is to be published by subscription at £5. 5s. per copy. As soon as fifty subscribers have been obtained the book will be printed.

Society of Chemical Industry.—*Liverpool Section.*—The next meeting of the section will be held at the Chemical Laboratories, University College, on Wednesday, March 30th, 1898, at 7.30 p.m. An obituary notice of the life and work of the late Dr. Hurter will be presented at the meeting. Mr. Rowland Williams will read papers on the following subjects—(*a*) "Japanese Wood Oil." (*b*) "The Proportion of Unsaponifiable Matter in Boiled Linseed Oil."

Silica and China Clay in Italy.—Important deposits of silica and china clay have been found and are about to be worked near Calabria, Italy. There is practically no limit to the quantity obtainable, and as Italy alone consumes 34,000 tons of silica annually there is an abundant local market, besides what may be done in exports. The separating machinery is now in full work, and proves that with very little trouble, and at a small cost, a perfect separation of silica and kaolin is readily obtainable.

More Iron Ore in the Furness District.—Boring explorations have been going on for a considerable time near Dalton-in-Furness in the hope of finding new veins of iron ore, as the present large deposits in various parts of the district of hematite ore, which have been worked now for a great many years, are being gradually exhausted. A fine vein of blast ore has been struck at a depth of about forty fathoms, its proved thickness being considerably over 30ft. This is one of the most important discoveries of ore that has been made in the district for many years.

The Anchor Chemical Engineering Co.—We understand that this company has recently acquired an engineering works in the neighbourhood of Cornbrook, Manchester, in connection with the extension of their business.

Fatality with Quick-Drying Paint.—An inquest was held on Wednesday, on the body of W. J. Brazier who was killed at the Tonge Spring Chemical Works, Middleton, through the explosion of a barrel of quick-drying paint. The deceased was smoking and set fire to some of the paint, which fired back to the keg and caused an explosion. Smoking on the works was contrary to regulations.

The Water Gas Scare.—The Liverpool Medical Officer of Health has reported to the Health Committee that the gas supplied to householders by the local gas company contains an admixture of water gas, which in the case of defective fitting might cause serious consequences, water gas being a virulent poison. The Town Clerk was instructed to take steps in the matter.

Market Reports.

TAR AND AMMONIA PRODUCTS.

It may seem anomalous to say so, but benzols are weaker if anything, with 90's at 1s. 2½d. to 1s. 3d. and 50/90's 1s. 5d. Stocks are low enough at present, but the future is not very encouraging. Carbolic acids are unchanged in the matter of prices, but crude is a firmer market. It is not easy to quote crude naphtha, the value ranging between 7d. and 8d. Solvent unchanged and in fair request. There is more movement in anthracene. Creosote firm. Pitch steadier at 19s. 6d., f.o.b. East Coast.

Sulphate of ammonia continues to decline. There has been rather more doing, but ample supplies have led to easier prices. Nearest closing quotations are:—London outside makes £9., Liverpool £9., Hull £8. 17s. 6d., and Leith £8. 18s. 9d., all prompt. There is no quotation for Beckton.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there continues a fairly steady demand for export, and price of caustic soda is rather firmer, though without quotable change meantime. Prices, f.o b. Liverpool, are as follows:—77% £8. 5s.; 74% £8.; 70% £7. 7s. 6d; 60% £6. 7s. 6d. nett, 10-ton lots. Bleaching powder in fair request at £6. to £6. 5s. f.o.b., and £5. 2s. 6d. for home trade, f.o.r. makers' works. Chlorates are depressed at 3¼d. and 3¾d. per lb. respectively for potash and soda. Leblanc soda ash nominally 1¼d. per degree, f.o.b. Ammonia alkali, 58%, unchanged in price at £4. bags, f.o.r. works, prompt and forward delivery. Sulphate of copper £16. 7s. 6d. to £16. 10s., f.o.b. Saltcake firm at 19s. to 20s., f.o.r. in bulk, with fairly steady inquiry. Sulphur £4. 10s. f.o.r., and there is a moderately good demand for vitriol and muriatic acids. For superphosphates the makers are under heavy engagements. Acetate of lime, brown, is rather easier; other acetates unaltered. White powdered arsenic is quoted at £19. 10s. to £19. 15s. for prompt delivery. Potash, caustic and carbonate, are steady in price, with fairly good inquiry. Aniline oil and salt unchanged at late quotations. Ammonia salts, generally, quiet. Sulphate of iron is in good request. Prussiate of potash firm at 6½d. and cyanide 1s. 1d. per lb. Sulphocyanides dull, but values are unaltered. Zinc salts are firmer. Nitrate of soda steady at 7s. 6d. per cwt. Borax has relapsed to £12. 10s. per ton.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron steady: Scotch warrants closed at 46s.; Middlesbro', 40s. 1d. cash; and hematite, 49s. 0½d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 17s. 6d. to £50. 2s. 6d. cash, and £51. 5s. to £51. 10s. three months. Tin steady: Straits closed at £65. 10s. to £66. cash, and £66. 2s. 6d. to £62. 12s. 6d. three months. Lead easy: Spanish, £12. 15s. English, £12. 17s. 6d. Silesian spelter, ordinary, £18. 10s. to £18. 12s. 6d. Nickel, 1s. 2½d. Antimony, £31. 10s. to £32. Quicksilver: First hands, £7. 2s. 6d.; second hands, £7. 2s. *Copper shares* quiet: Cape, 4¾ to $4\frac{7}{8}$; Copiapo, $2\frac{5}{16}$ to $2\frac{7}{16}$; Libiola, 2¾ to 3; Mason and Barry, 3½ to 3¾; Rio Tinto, 29¼ to 29⅜; Tharsis, 7 to 7¼.

GLASGOW, Wednesday.—Market steady, and a small business. Scotch done at 46s. cash; buyers, 46s. cash; sellers, ½d. more. Cleveland, buyers, 40s. 1d. cash; sellers, 40s. 1½d. Cumberland hematite done at 49s. 1d. cash; buyers, 49s. 0½d. cash; sellers, 49s. 1d. Middlesbrough hematite, buyers, 50s. 6d. cash; sellers, 51s.

REPORT ON MANURE MATERIAL.

There is no new feature in the market upon which to comment specially. Deliveries of superphosphates continue upon a heavy scale, and it looks as though there would be a squeeze for supplies before the end of the season.

Quotations for mineral phosphate are unchanged. There is good inquiry for high grade for the Baltic, but owing to the very firm attitude of sellers no important business has transpired.

East India bone meal continues to offer at £4. 5s. per ton, spot and afloat, and it is probable that for good lines £4. 3s. 9d. per ton would be business.

Nitrate of soda is firm at 7s 6d. per cwt. for fine quality on spot.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is quiet, both sellers and buyers being obdurate. There is a fair trade doing in olive, but the market is quiet, at rather easier quotations. Linseed is firmer, with sellers of Liverpool makes in export casks at 17s. to 17s. 6d. per cwt. Cottonseed is well held at 15s. 3d. to 15s. 9d. per cwt. for Liverpool refined, with a fair business doing. Castor oil is now freely offered on spot at 3¼d. to 3 5/16d. for good seconds Calcutta, and 3¼d. per lb. for first pressure French. Quotations, however, are practically nominal. Tallow is moving fairly well, and prices are maintained. London auction prices, however, are weaker. Resin is firm with a moderate business doing in all grades. Spirits of turpentine inclined to be firmer at 25s. per cwt. Petroleum unchanged for American. Russia ¼d. easier at 4⅜d. per gallon.

CAKES.—The tone of the market for spot parcels of American Western linseed on the spot is again rather easier, quotation being now £6. 1s. 3d. to £6. 7s. 6d., and only a moderate business passing. Liverpool makes continue steady in tone, with a moderate demand at £8. 2s. 6d. to £8. 10s. per ton. American decorticated cotton-seed cakes are now offering at £5. 5s to £6. There is rather a firmer tone in the market for Liverpool makes, and the quotation is well maintained at £6. 5s to £6. 10s. per ton. Liverpool makes meet a very fair consumptive inquiry at £3. 17s. 6d. to £4. 12s. 6d. Egyptian on the spot continue firm at £3. 18s. 9d. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The dealers still lead the way in the depreciation of sulphate of ammonia, the makers following at a short distance and in a mood of the greatest reluctance. By the former, sales have already been done down to the £9, f.o.b. Leith, but makers for the most part are holding for about £9. 2s 6d. There is, of course, nothing doing in the way of forward dealing. Sulphate of copper is on report as a little easier, but not yet to the extent of any definite break of quotation. Otherwise, chemicals are perhaps the least thing improved. Actual Baltic shipments are still in the future. but judging from the bulk of inquiries the prospects for the season are good. Chlorate of potash is perhaps a little easier. Mineral oils and paraffins are at present not changed in any way. After the closing of March burning oil may perhaps be made a fraction cheaper, in tiding over the idle summer season.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 7s. 6d., 60/62° £6. 7s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 18s. to 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 2½% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 2½% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 4½d. to 7s. 9d.; sulphate of ammonia, £9. 0s. to £9. 2s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £18. 10s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 5,493 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY

There is no change to report in the market and any signs of improvement in the demand are slow in showing. Soda crystals are steady at £2. 12s. 6d. per ton, gross weight locally. Caustic quiet at £7. 10s. per ton for 70%, and £8. 15s. per ton for 76/77%. Sulphur scarce at £4. 15s. to £5 per ton.

Bleaching powder, softs, £5 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 15s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt firm at 9s. to 9s. 3d. per ton, f.o.b. Tees.

COALS.—Market here is somewhat excited in view of the uncertainty of the position in Wales, much higher prices are asked for best steam coals for early delivery, and there is considerable inquiry for coals for places usually supplied from Cardiff. To-day's prices may be quoted as follows:—Best Northumbrian steam, 9s. to 9s. 6d. per ton; second qualities 8s. to 8s. 6d. per ton; small steam, 3s. 6d. to 3s. 9d. per ton; gas coals, 7s. 6d. to 8s. per ton; household coals, 10s to 11s. per ton; coke, 17s. to 21s. per ton.

New Companies.

Northern Acetylene Gas and Carbide Co., Ltd.—CAPITAL £5,000., in £1. shares. This company has been formed to acquire the business carried on by A. B. Lennox as "The Northern Acetylene Gas and Carbide Co.," and to manufacture, sell, and deal in Kay's patent generators for producing gas, Kay's patent burners, and patent acetylene gas fittings, carbide of calcium, etc. The number of directors is not to be less than three nor more than seven; the first are A. Kay, J. C. Crompton, J. Eltringham, and F. Devine. Registered office: 13, Grainger-street West, Newcastle-on-Tyne.

Shipowners' Composition Co., Ltd.—CAPITAL £20,000., in £10 shares. This company has been formed to manufacture, sell, and deal in anti-fouling and anti-corrosive compositions and paints for ships' requirements generally. The subscribers to the memorandum of association are:—C. Morrison, 25, Royal-terrace, Edinburgh, merchant; A. A. Rose, 26, Regent-terrace, Edinburgh, merchant; J. B. Adam, 42, Drummond-place, Edinburgh, merchant; N. R. Foster, 4, Bankside, S.E., merchant; C. Morrison, jun., 33, South-grove, Highgate, merchant; R. Thompson, Grangemuir, Wimbledon Common, shipowner; R. T. Scott, 7, North-grove, Highgate, shipowner. Registered office: 6 and 8, Lime-street Square, E.C.

John Summers and Sons, Ltd.—CAPITAL £200,000., in £10. shares (10,000 preference). This company has been formed to adopt an agreement for the acquisition of the business of "John Summers and Sons," of Stalybridge, and Connah's Quay, Sealands, near Chester, and to carry on the business of ironmasters, ironfounders, colliery proprietors, coke manufacturers, miners, smelters, etc. The subscribers to the memorandum of association are:—J. W. Summers, Cam-yr-Alyn, Rossett, ironmaster; J. Summers, Inglewood, Stalybridge, ironmaster; W. Summers, Mitchelstown, barrister-at-law; H. H. Summers, Kelsall House, Stalybridge, ironmaster; F. B. Summers, Broomfield Hall, Mold, ironmaster; Mrs. H. H. Summers, Kelsall House, Stalybridge; Mrs. J. Summers, Inglewood, Stalybridge.

Oil Patents Syndicate, Ltd.—CAPITAL £10,000., in £1. shares. This company has been formed to adopt an agreement with the Fish-oil and Guano Syndicate, Ltd., and to acquire, own, and work certain patents relating to the capture, treatment, storage, and extraction of useful substances from fish, seals, and other animals. The subscribers to the memorandum of association are:—A. T. Brown, 19, Farleigh-road, Stoke Newington, clerk; D. Amey, 4, Margery Park-road, Forest Gate, secretary; E. H. Wilson, Adela Villa, Acacia-road, Enfield, accountant; A. J. Hall, Lewes House, Bromley, Kent, solicitor; A. R. Schade, 319, Ladbroke-grove, W., gentleman.

Doran, 84, Winston-road, Green Lanes, N., clerk; G. Linder, 97, Maysoule-road, New Wandsworth, clerk.

NEW ISSUES.

Johnson, Matthey, and Co., Ltd., offer for subscription £250,000 four per cent. mortgage debenture stock at £102. per cent. The company was formed in 1891 with a share capital of £900,000 in 30,000 five per cent. preference and 30,000 ordinary shares of £15. each, of which £300,000. of preference and £300,000 of ordinary shares have been issued, all being held by the members of the late firm of Johnson, Matthey, and Co., and their sons. The nature of the business involves the continual purchase for refining and sale of large quantities of the precious metals, which have to be paid for on arrival in this country, and as the production of these metals, and their import into England, are largely increasing, it has become desirable, in the interests of the business, to have the command of an increased amount of capital.

Samuel Meggitt & Sons, Ld, with a capital of £125 000, divided into 6,000 5 per cent. cumulative £10. preference shares, and 6,500 £10. ordinary shares, announce a new issue of 2,500 preference shares. The company was formed in 1893 to take over the business of manufacturers of fine glues and gelatines bone-crushers and chemical manure manufacturers, button manufacturers, cake and seed merhants, and agricultural factors, at Sutton-in-Ashfield, Notts., and Effingham-road, Sheffield, successfully carried on since 1837 under the style of Saml. Meggitt and Sons. In March, 1897, the company acquired from Messrs. Bindley and Son, Smethwick, near Birmingham, the transfer of their old established business in glues and gelatines, together with all manufacturing rights therein. The proposed issues are required to provide for the completion of the extensions and necessary additional working capital required in connection with this absorption. The assets of the company at the 31st July last are stated at £120,741. 16s. 9d., and the profits of the business since the incorporation of the company have averaged £5,122. 11s. 4d. per annum.

Gazette Notices.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

Davies, Chas. Edward (carrying on business as J. H. Shroder and Co., also formerly as C. E. Davies and Co., afterwards and now as Parker, Davies, and Co.), Mountford Lodge, Kent-road, Gravesend, S.E., and Mincing-lane, E.C., general merchant, disinfectant manufacturer, and oil refiner.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 12th.

Acetate of Lime—
U. States, 442 pks. Gillespie, Brs. & Co.

Acetic Acid—
Germany, 15 pks. Phillipps & Graves
Belgium, 200 R. G. Hall & Co.
Holland, 34 & qty. A. & M. Zimmermann

Acids—
Holland, 46 pks. Little & Johnston

Alkali—
Germany, 106 c. J. Barber & Co.

Alum—
Holland, 479 pks. Ohlenschlager Brs.
Germany, 168 H. Wallace & Co.

Alumina Sulphate—
Germany, 61 pks. H. Wallace & Co.

Ammonia—
Holland, £50 H. Lorenz

Antimony Ore—
Bastia, 36 t. J. Bamber
E. Indies, 35 R. & J. Henderson

Asbestos—
Canada, £60 M. L. Warzburg & Co.
" 660 W. Byford
Italy, 45 Gerard & Co.
Germany, 13 Craven & Co
" 1,000 Pickford & Co.
Italy, 245 British Asbestos Co.
" 34 London Asbestos Co.

Barium Chlorate—
Germany, £56 G. Boor & Co.

Barium Chloride—
Holland, £60 J. Owen
Germany, 30 Petri Brs.

Barytes—
Belgium, 270 pks. J. L. Lyon & Co.
" 72 W. Harrison & Co.
Holland, 211 "
" 23 Robinson, Roberts & Co.
Germany, 23 W. Balchin, Ld.
" 100 H. Lambert

Bleaching Powder—
Holland, £62 J. M. Steel & Co.

Bromide of Iron—
Germany, 15 pks. A. & M. Zimmermann

Bromine—
Germany, 20 pks. A. & M. Zimmermann

Camphor—
Japan, 6 pks. Hernu, Peron & Co.
Germany, 1 Butler's Wf., Ld.

Caoutchouc—
Straits, 139 c. Butler's Wf., Ld.
" 82 Huttenbach & Co.
" 81 L. & I. D. Jt. Co.
Gambia, 4 T. H. Lee
Zanzibar, 5 Clarke & Smith
Ceylon, 2 Hoare, Wilson & Co.
France, 40 H Ewald & Co.
U. States, 53 Chautard & Coristensen
Germany 18 L. & I. D. Jt. Co.
Panama, 61 "
" 6 Kleinwort, Sons & Co.
Ecuador, 228 Prop. Bull Wf.
Guatemala, 34 Mancha & Co.
U. States, 58 F. V. Smythe & Co.
B. W. I., 16 L. & I. D. Jt Co.

Carbolic Acid—
Germany, 101 pks. J. G. Back
" 25 Blagden, Waugh & Co.

Castor Oil—
Italy, 100 cs. H. F. Love & Co.
Belgium, 25 brls. C. & E. Morton
" 20 Anderson, Weber & Smith
Italy, 10 cs. A. & M. Zimmermann
" 20 City Coml. Wf. Co., Ld.
" 5 cks. J. Barber & Co.
France, 25 cs. F. Boehm
" 12 Beresford & Co.

Caustic Potash—
Germany, £200 J. M. Steel & Co.

Chemicals (*otherwise undescribed*)
Belgium, £12 John Cockerill Line
Melbourne, 140 L. & I. D. Jt. Co.
Germany, 13 Butler's Wf., Ld.
France, 44 Mory & Co.
Holland, 150 T. Palmer
" 20 R. W. Greeff & Co.
Belgium, 117 T. H. Lee
U. States, 1,040 H Harkness
E. Indies, 10 Burgoyne & Co.
Germany, 95 L. & I. D. Jt. Co.
" 1,008 A. & M. Zimmermann
Holland, 14 Blagden, Waugh & Co
" 7 Corbyn, Stacey & Co.
Germany, 102 Phillipps & Graves
" 60 H. Lambert
Belgium, 175 T. H. Lee
Holland, 15 J. Barber & Co.
France, 156 B. & F. Wf. Co.

Citrate of Lime—
Italy 17 pks. B. Jacob & Sons

Cream of Tartar—
France, 10 pks. C. Atkins & Nisbet
Holland, 22 Kirkpatrick, Barr, & Co.
Spain, 12 F. C Devon & Co.
" 20 B. & F. Wf. Co.
" 40 W. C. Bacon & Co.
France, 2 L. & N. W. Rly. Co.
Belgium, 1 B. & F. Wf. Co.
France, 16 "

Dyestuffs—
Aniline
Belgium, 30 pks. W. Gerson & Co
Germany, 7 Butler's Wf., Ld.
Annatto
U. States, 16 pks. Anderson, Weber & Smith
Argols
Cape, 20 pks. Lewis & Peat
Italy, 749 B. Jacob & Sons
" 16 Thames S. Tug & L. Co., Ld.
Adelaide, 3 L. & I. D. Jt. Co.

Cutch
E. Indies, 40 pks. L. & I. D. Jt. Co.
" 400 A. Howden & Co.
Rangoon, 375 Brown & Elmslie
Extracts
France, 107 pks. T. H. Lee
" 140 L. J. Levinstein & Sons
Austria, 520 Boutcher, Mortimore & Co.
" 300 Bailey & Leetham, Ltd.
Germany, 20 T. H. Lee
" 200 J. Greig
France, 100 B. & F. Wf Co.
Denmark, 3 M. D. Co.
U. States, 53 W. Burton & Sons
Belgium, 30 Leach & Co.
U States, 50 Skilbeck Brs.
Holland, 5 T. H. Lee
France, 174 Union Ltge. Co.
Italy, 40 "
U. States, 25 L. & I. D. Jt. Co
Canada, 80 Boutcher, Mortimore & Co.
Fustic
Canada, 23 t. S. Dobree & Sons
Gambier
Straits, 442 pks. Brinkmann & Co.
" 705 Beresford & Co.
" 1,003 Prop Hay's Wf.
" 248 C. S. Lovell
" 491 J. Greig
" 524 P. & O. Co.
Indigo
E. Indies, 174 chts. J. Finlay & Co.
" 17 Elkan & Co.
" 5 R. Von Glehn & Sons
" 16 P. Macfadyen & Co.
" 39 Croysdale & Co.
" 15 cs. G. N. Rly.
Holland, 1 1 Tingle, Jacobs & Co.
Belgium, 1 John Cockerill Line
E. Indies, 10 J. Owen
" 19 A. B. Curtis & Co.
" 21 H. J. Perlbach & Co.
" 7 F. Claydon & Co.
" 40 Carey & Sons
" 93 195 pks. J. W. Cook & Co., Ld.
Straits, 14 H. Johnson & Sons
" 23 Binny & Co.
" 36 L. & I. D. Jt. Co.
E. Indies, 61 "
Straits, 19 F. Huth & Co.
Guatemala, 170 srns. Schluss Brs.
" 11 Isaac & Samuel
" 21 Chalmers, Guthrie & Co.
E. Indies, 39 Wallace Brs.
" 102 J. Karpeles & Co.
" 40 P. Macfadyen & Co.
" 10 Parsons & Keith
" 7 W. Pope & Co.
" 4 Arbuthnot, Latham & Co.
" 4 Schenker & Co.
" 2 P. & O. Co.
Logwood
Holland, 25 t. J. Owen
Myrabolams
E. Indies, 1,200 pks. E. J. Wieser & Co.
" 900 D. Sassoon & Co.
" 2,048 W. Shelcott
" 440 L. & I. D. Jt Co.
" 1,200 H. K. Daniels
Straits, 667 Hepburn & Co.
" 665 Walton & Young
" 310 T. W. Beard
E. Indies, 2,764 Baxter & Hoare
Shumac
Italy, 500 pks. J. Kitchin, Ld.
" 50 H Johnson & Sons

Farina—
Germany, 100 pks Hernu. Peron & Co.
France, 140 Bennett S. S. Co.
Holland, 100 J. Barber & Co.
" 150 Dunlop Brs. & Co.

Glucose—
Germany, 998 pks. 998 c. L. & I. D. Jt. Co.
" 10 85 J. Knill & Co.

Glue—
Germany, £35 Butler's Wf., Ld.
U. States, 72 General Produce Co.
France, 12 Bennett S. S. Co.
" 17 Flageollet & Co.
Holland, 60 W. J. Davies & Sons
" 112 J. Barber & Co
Italy, 195 "
Belgium, 1,480 "
Norway, 300 C A & H Nichols
Germany, 150 L. & I. D. Jt. Co.
Holland, 91 T. H. Lee
Belgium, 264 Leach & Co.
France, 36 Prop. Hay's Wf.
Germany, 20 H. Lambert
Holland, 53 F. Claydon & Co.
" 350 M. H. Voss
France, 26 J. Harrison
Belgium, 335 Duche & Sons
Austria, 26 M. D. Co.
Australia, 15 T. J & T. Powell

Kainit—
Germany, 50 t. F. W. Berk & Co., Ltd.

Lead Acetate—
France, £120 F. Smith

Magnesium—
Germany, £106 D. W. Greenhough & Son

Manganese Ore—
Germany, 1 t. Butler's Wf., Ltd.

Manure—
Italy, 12 t. D. Ascoli
Holland, 600 T. H. Lee
E. Indies, 1,000 A. Hunter & Co.

Methyl Alcohol—
Belgium, 2 cks. T. Jones & Co
" 8 dms E. J. Catlin
Germany, 7 T. Jones & Co.

Mica—
Madras, £2,240 W. M. Smith & Sons
U. States, 25 W. Balchin
Germany, 20 L. & I. D. Jt. Co.
Bengal, qty. "

Ochre—
France, 132 pks. W. Harrison & Co.
Holland, 3 Phillipps & Graves
Oxalic Acid—
Holland, 6 pks. R. W. Greeff & Co.
Phosphate of Lime—
Belgium, 160 t. Odams Manure & Chemical Co.
" 175 Lawes Chemical Manure Co.
Pitch—
Germany, 100 brls. Poth, Hille, & Co.
" 12 tubs C. F. Gerhardt
Plumbago—
Germany, 10 cs. Butler's Wf., Ltd.
" 13 cks. R. Ulrich
Ceylon, 241 brls. Morgan Crucible Co., Ltd.
" 352 T. W. Beard
" 86 L. T. & L. C & Dredg. Co.
Straits, 30 cs. L. & I. D. Jt Co.
Germany, 87 E. & T. Pink
Ceylon, 553 brls. J. Thredder, Son, & Co.
Potassium Bicarbonate—
Germany, £40 H. Lambert
Potassium Bromide—
Germany, 12 pks. Butler's Wf., Ltd.
Potassium Carbonate—
France, 20 c. J. A. Reid
Germany, 400 A. J. Luke & Co.
Potassium Chloride—
Germany, 203 pks. Bessler, Waechter, & Co.
Potassium Cyanide—
Germany, 5 cs. F. C. Devon & Co.
" 100 pks. Perkins & Homer
Potassium Sulphate—
Germany, 102 pks. Bessler, Waechter, & Co.
" 508 Union L. Co., Ltd.
" 500 Perkins & Homer
Holland, 31 Elkan & Co.
Pumice Stone—
Italy, 7 t. Fellows, Morton, & Co.
" 2 G. W. Largen
" 10 Robertson, Selly, & Co.
Spain, 4 T. H. Lee
Saltpetre—
Holland, 44 cks. S. E. Railway Co.
Germany, 12 brls. L. & I. D. Jt. Co.
118 pks. P. Hecker & Co.
" 30 kgs.
" 70 cks. S. E. Railway Co.
Soapstone—
Italy, 12 t. W. Byford
Soda—
Holland, 200 pks. R. W. Greeff & Co.
Soda Ash—
Belgium, 400 c. Domeier & Co
Sodium Acetate—
Belgium, 49 cks. J. Harrison
Sodium Bicarbonate—
Holland, 20 c. Corlyn, Stacey, & Co.
Starch—
France, 140 pks W. E. Cole
Belgium, 50 T. H. Lee
Germany, 17 Butler's Wf., Ltd.
Holland, 1,436 Little & Johnston
" 710 A. Starck
" 117 Phillipps & Graves
U. States, 100 Ohlenschlager Brs.
Belgium, 400 C. Tennant, Sons, & Co.
U. States, 125 R. Bennett & Co.
" 962 Union L. Co., Ltd.
Belgium, 120 F. Claydon & Co
U. States, 100 R. G. Hall & Co.
" 2,450 Bertel Food Co.
Holland, 50 Hernu, Peron, & Co
Belgium, 320 J. Harrison
" 1,250 E. & T. Pink
" 60 Becker & Wagner
Stearine—
Belgium, 125 bgs. H. Hill & Sons
" 9 cks. "
U. States, 5 pks. Finsler & Wheeler
Belgium, 13 cks. D. C. Thomas & Sons
Strontia—
Germany, £40 H. Lambert
Sulphur—
Italy, 24 t. G. Boor & Co.
" 21 J. Kitchin, Ltd.
" 50 C. F. Webster & Co.
" 300 B. Jacob & Sons
Sulphuric Acid—
Germany, 20 pks. L. & I. D. Jt. Co.
Superphosphates—
Belgium, 1 t. Chemical Works
Tartaric Acid—
Holland, 30 pks. Kirkpatrick, Barr, & Co.
Ultramarine—
Holland, 4 pks. W. Harrison & Co.
Germany, 2 Phillipps & Graves
Belgium, 20 Leach & Co.
" 20 J. Harrison
Varnish—
France, 12 pks. Mory & Co.
——, 24 Butler's Wf., Ltd.
Germany, 6 "
Verdigris—
France, 2 pks. H. Lorenz
White Lead—
Holland, 10 pks. D. Storer & Sons
" 24 Wilkinson, Heywood, & Co.
Belgium, 18 Perkins & Homer
" 4 Pinchin, Johnson, & Co.
" 46 T. & W. Farmiloe, Ltd.
Germany, 4 J. Barber & Co.
Norway, 4 Johnsen & Jorgensen
Germany, 49 Taylor Brs.
" 27 Burrell & Co.
" 26 W. A. Rose & Co.
Wood Pulp—
Sweden, 721 pks. W. G. Taylor
Norway, 85 "
Denmark, 400 Johnsen & Jorgensen
Belgium, 1,674 P. Heydeman
Portugal, 250 H. N. Knights
U. States, 1,300 Henderson, Craig, & Co.
Canada, 30 Furness, Withy, & Co.
Sweden 121 M. D. Co.
Holland, 8 T. H. Lee
Germany, 1,050 E. J. & W. Goldsmith
Sweden, 320 Alsing & Co.
" 1,016 W. D. Cork, jnr.
" 4,174 E. J. & W. Goldsmith
Zinc Oxide—
Holland, 507 pks Soundy & Sons
" 196 M. Ashby, Ltd.
U. States, 500 "
Germany, 50 D. Storer & Sons
Holland, 125 Spies Brs. & Co.

LIVERPOOL.

Week ending March 10th.

Aluminium—
New York, 1 bx. T. Ashbury
Ammonia—
Punta Arenas, 6 cs. Duncan, Fox & Co.
Ammonium Nitrate—
Antwerp, 82 brls.
Antimony—
Valparaiso, 100 bgs. Kleinwort, Sons & Co.
Barytes—
Antwerp, 29 bgs. 85 cks.
Rotterdam, 100 13
Boracic Acid—
Sydney, 5 kgs. Lever Brs., Ld.
Borates—
Galveston, 6,141 sks. Pacific Borax & Redwood's Chem. Wks.
" 1,952
Borax—
Valparaiso, 1,340 sks. W. Gossler
" 1,340
Caoutchouc—
Valparaiso, 120 bls J. H. Schroder & Co.
Havre, 21 Cunard S. S. Co., Ltd.
Castor Oil—
Calcutta, 179 cs. Ralli Brs.
Colours—
Rotterdam 2 cks. 1 brl.
Cottonseed Oil—
Baltimore, 100 brls.
Cream of Tartar—
Patras, 14 brls. S. A. Acratopulo
Bordeaux, 76 cks.
Tarragona, 5 Sachse & Klemm
Dyestuffs—
Annatto
Bordeaux, 6 cs.
Indigo
Calcutta, 302 chts.
Orchella
Colon, 41 bls. J. Beausire & Co.
Saffron
Valencia, 2 cs.
Valonia
Patras, 1,150 bgs.
Glucose—
Baltimore, 50 brls.
New York, 119
Glue—
Baltimore, 4 brls.
Genoa, 13 cks.
Antwerp, 4 16 bls.
Rotterdam 6 210 bgs. 1 cs.
Infusorial Earth—
Hamburg, 92 bgs.
Iron Oxide—
Hamburg, 1 cs.
Litharge—
Rotterdam, 24 cks.
Lithopone—
Rotterdam, 20 cks.
Manganese Ore—
Bordeaux, 1,200 t. Darwen & Mostyn Iron Co.
Mineral White—
Fiume, 320 bgs.
Nickel Salts—
New York, 4 brls.
Ochre—
Marseilles, 16 cks.
Oxalic Acid—
Hamburg, 1 ck.
Rotterdam, 4
Paint—
Hamburg, 20 dms.
Boston, 5 cs.
Paraffin Scale—
New York, 1,182 brls. Thompson & Bedford
Baltimore, 200
Phosphate Rock—
Brunswick, Ga., 1,438 t.
Potash—
Hamburg, 10 cks.
Pumice Stone—
Leghorn, 4 cs.
Pyrites—
Huelva, 2,195 t. Matheson & Co.
Salt—
N. Orleans, 250 sks. J. S. Harmon
Antwerp, 102 pks.
Saltpetre—
Hamburg, 2 cks 30 kgs.
Soap—
Syra, 1 bx. E. A. Copehilis
Rotterdam, 272 cs.
Gourien, 3 bgs. R. J. Francis & Co.
Starch—
New York, 800 bgs.
Hamburg, 124 cs.
Baltimore, 100 bgs.
Antwerp, 240 cs. J. T. Fletcher & Co.
Rotterdam, 40
Stearine—
Antwerp, 13 bgs. J. T. Fletcher & Co.
" 13
Talc—
Trieste, 400 bgs.
Tallow—
Baltimore, 60 tcs.
Zarate, 258 pps. J. Nelson & Sons, Ld
B. Ayres, 100 cks.
Sydney, 674 Lever Brs., Ld.
Philadelphia, 300 trcs. 5 cs.
Tartaric Acid—
Rotterdam, 12 cks.
Treacle—
New York, 50 brls.
Ultramarine—
Hamburg, 3 cks.
Rotterdam, 20
Waste Salt—
Hamburg, 207 bgs. 8 cks.
Wolfram—
Hamburg, 5 cs.
Wood Pulp—
Arendal, 2,400 bls. H. Tyrer & Co.
Christ'nsand, 5,044 "
Skien, 3,456 "
Zinc Oxide—
Antwerp, 81 brls.
Zinc White—
Rotterdam, 50 cks. 40 brls.

MANCHESTER.

Week ending March 12th.

Albumen—
Libau, 4 cs. W. H. Stott & Co.
Alizarine—
Rotterdam, 12 cks.
Alkali—
Rotterdam, 4 cks.
Aluminous Cake—
Rotterdam, 15 cks.
Aniline Salts—
Rotterdam, 25 cks.
Barytes—
Antwerp, 18 cks. J. T. Fletcher & Co.
Rotterdam, { 7 / 100 bgs.
Chemicals *(otherwise undescribed)*
Rotterdam, 4 cks.
Colours—
Rotterdam, { 20 cks. 12 cs. 10 bxs. / 63 brls.
Cream of Tartar—
Rotterdam, 10 cks.
Farina—
Rotterdam, 1,500 bgs.
Gelatine—
Antwerp, 10 bls.
Glucose—
Stettin, { 350 bgs. / 50 cks.
Glue—
Rotterdam, 10 cs.
Antwerp, 25 pks. J. T. Fletcher & Co.
" 2 cks.
Indigo—
Rotterdam, 1 chst.
Limestone—
Antwerp, 9 crts. J. T. Fletcher & Co.
1 cs.
" 4
Molasses—
Danzig, 195 brls. W. H. Stott & Co.
Oxalic Acid—
Stettin, 15 cks. W. H. Stott & Co.
Ozokerite—
Stettin, 169 bgs. W. H. Stott & Co.
Phosphates—
Ghent, 140 t.
Potash—
Antwerp, 3 cks. J. T. Fletcher & Co.
Rotterdam, 43
Potassium Carbonate—
Stettin, 43 cks. W. H. Stott & Co.
Potassium Prussiate—
Rotterdam, 12 cks.
Pumice Stone—
Antwerp, 1 cs.
Messina, 10
Pyrites—
Huelva, 1,663 t.
Saltpetre—
Hamburg, { 20 kgs. / 3 brls.
Shumac—
Palermo, 20 bgs. 225 bls.
Soap—
Rotterdam, 3 cs.
Sodium Nitrate—
Rotterdam, 8 cks.
Starch—
Antwerp, 40 cs.
Hamburg, 40
Tannic Acid—
Hamburg, 10 cks.
Tartaric Acid—
Rotterdam, { 46 cks. / 10 kgs.
Wood Pulp—
Fredrikshald, 1,000 bls. W. Gallagher & Sons
Stettin, 54 W. H. Stott & Co.
Zinc Ashes—
Antwerp, 18 cks.
Zinc Oxide—
Antwerp, 140 brls.
Rotterdam, 60
Zinc White—
Rotterdam, 10 cks.

HULL.

Week ending March 12th.

Acetic Acid—
Rotterdam, 34 blns. Hutchinson & Son

Acids—
Bari, 45 cks. Wilson, Sons, & Co., Ld

Antimony—
Dunkirk, 3 cks. Wilson, Sons, & Co., Ld.

Arsenic—
Hamburg, 100 kgs. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 38 cks. Bailey & 20 bgs. Leetham. Ld.
Bremen, 39 cks. G. Holmes & Co.
Hamburg, 20 Wilson, Sons, & Co., Ld.

Bone Meal—
Rotterdam, 500 bgs. Hutchinson & Son

Chemicals (*otherwise undescribed*)
Bremen, 12 cs. Veltmann & Co.
Antwerp, 7 cks. Wilson, 76 pks. Sons, & Co., Ld.
Dunkirk, 60 ,,

Cod Oil—
Christiansund, 17 brls. Wilson, Sons, & Co., Ld
Aalesund, 163 ,,
Drontheim, 18 ,,

Colours—
Antwerp, 24 pks. Wilson, 1 cs. Sons. & Co.. Ld.
Rotterdam, 4 cks. Hutchinson 5 cs. & Son
,, 61 cks. W. & C. L.
5 brls. 86 pks. Ringrose

Cottonseed Oil—
New York, 471 brls. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 77 pks. W. & C. L. Ringrose
Gambier
Hamburg, 126 pks. Wilson, Sons, & Co., Ld.
Shumac
Trieste, 70 bgs. Wilson, Sons, & Co., Ld.
Palermo, 100
Rouen, 1 ble. Rawson & Robinson

Farina—
Stettin, 50 bgs.
Harlingen, 50 bls. Hutchinson & Son
,, 200 W. & C. L. Ringrose

Glucose—
Stettin, 8 cks. Wilson, Sons, & Co. Ld.
New York, 856 brls.

Glue—
Christiansund, 1 brl Wilson, Sons, & Co., Ld.
New York, 1 bx. ,,

Lead Acetate—
Stettin, 14 cks Wilson, Sons, & Co., Ld.

Lime—
New York, 544 bgs. Wilson, Sons, & Co., Ld.

Mineral White—
Fiume, 30 bgs. Wilson, Sons, & Co., Ld.

Minium—
Rotterdam, 10 cks. Hutchinson & Son

Nickel Salt—
Rotterdam, 1 ck. Hutchinson & Son

Paint—
New York, 107 cs. Wilson, Sons, & Co., Ld.

Phosphate—
Dunkirk, 1,750 bgs.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.
Antwerp, 3 cks. ,,

Plumbago—
Dunkirk, 5 cs. Wilson, Sons, & Co., Ld.

Potash—
Dunkirk, 25 pks. Wilson, Sons, & Co., Ld.

Pumice Stone—
Messina, 56 pks. Wilson, Sons, & Co., Ld.
,, 20 cks.

Pyrites—
Huelva, 1,438 t.

Quicksilver—
Libau, 100 cylders. Bailey & Leetham, Ld

Rosin—
Rotterdam, 3 bls. Hutchinson & Son

Saltpetre—
Hamburg, 38 brls. Wilson, 11 pks. Sons, & Co., Ld
Antwerp, 135 bgs. ,,

Soap—
Bari, 54 cs.

Soda—
Antwerp, 100 bgs. Bailey & Leetham. Ld.
Ghent, 109 pks. Wilson, Sons, & Co., Ld.

Starch—
Amsterdam, 160 bxs. Hutchinson & Son
Rotterdam, 50 cs. ,,
Ghent, 222 Wilson, Sons, & Co., Ld.
Antwerp, 90 ,,
Bremen, 2,000 Veltmann & Co.

Sulphur—
Catania, 1,148 bgs. Wilson, Sons, & Co., Ld.
,, 884

Tallow—
New York, 30 tcs. Wilson, 60 brls. Sons, & Co., Ld.
Dunkirk, 124 cks. ,,

Tar—
Konigsberg, 20 cks. Wilson, Sons, & Co., Ld.
Reval, 23

Tartar—
Bordeaux, 5 cks. Rawson & Robinson

Tartaric Acid—
Rotterdam, 8 cks. Hutchinson & Son

Treacle—
New York, 2,425 brls. Wilson, Sons, & Co., Ld.

Turpentine—
Bordeaux, 11 cks. Rawson & Robinson

Ultramarine—
Rotterdam, 8 cks. Hutchinson & Son

Waste Salt—
Hamburg, 1,000 bgs. Wilson, Sons, & Co., Ld.
,, 600 & qty. Bailey & Leetham, Ld.

White Lead—
Amsterdam, 32 cks. Hutchinson & Son
Antwerp, 31 Bailey & Leetham, Ld.

Wood Pulp—
Rotterdam, 143 pks. W. & C. L. Ringrose
Hamburg, 200 bls. Wilson, Sons, & Co., Ld.
Hango, 302 J. Good & Sons

Zinc Ashes—
Antwerp, 10 cks. Bailey & Leetham, Ld.

Zinc Oxide—
Antwerp, 75 cks. Bailey & Leetham, Ld.
Rotterdam, 20 Hutchinson & Son

GLASGOW.

Week ending March 17th.

Alumina Sulphate—
Rotterdam, 85 cks. J. Rankine & Son

Ammonium Nitrate—
Rotterdam, 45 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 86 cks.

Barytes—
Rotterdam, 39 cks. J. Rankine & Son
Hamburg, 15

Castor Oil—
Antwerp, 111 cks.

Chemicals (*otherwise undescribed*)
Gothenburg, 4 cks. 50 kgs.

Colours—
Rouen, 2 cks.
Antwerp, 75
Rotterdam 10 J. Rankine
81 pks. & Son

Dyestuffs—
Alizarine
Rotterdam 46 cks. J. Rankine
1 bx. 28 brls. 3 cs. & Son
Aniline
Amsterdam, 1 ck. J. Rankine & Son
Rotterdam, 21 cks.
33 brls. 12 bxs. 8 cs. ,,
Extracts
New York, 20 brls. 30 bls.
Madder
Amsterdam, 2 cks. J. Rankine & Son
Shumac
Fiume, 6 bgs.

Glucose—
Boston, 500 brls.

Glue—
Rouen, 24 cks. 10 bls.
Fiume, 10 bgs.

Lamp Black—
Gothenburg 10 cs.

Ochre—
Rouen, 134 cks.

Phosphate of Lime and Rock—
Antwerp, 2,150 bgs.

Potash—
Rotterdam, 120 cks. J. Rankine & Son

Pyrites—
Huelva, 1,855 t. Tharsis Sulphur & Copper Co., Ld.

Sodium Acetate—
Rouen, 19 cks.

Starch—
New York, 800 bxs.
Boston, 100 sks. Jas. Osborne & Co
Antwerp, 40 cs.
Rotterdam, 100

Stearine—
Amsterdam, 124 bgs. J. Rankine & Son

Sulphur—
Catania, 130 t.

Tartar—
Bordeaux, 11 cks.

Ultramarine—
Rotterdam 4 cs. J. Rankine & Son

White Lead—
Rotterdam, 49 cks. J. Rankine & Son

Wood Pulp—
Portland, Me., 1,404 bdls.
Holmestrand, 6,000 bls.
Christiania, 1,176 20 cs.

Zinc Oxide—
New York, 50 brls.

Zinc White—
Rotterdam, 25 pks. J. Rankine & Son

TYNE.

Week ending March 12th.

Acids—
Antwerp, 80 cbys. Tyne S. S. Co.

Alum Earth—
Hamburg, 26 cks. Tyne S. S. Co.

Ammonium Chloride—
Hamburg, 1 ck. Tyne S. S. Co.

Asbestos—
Rotterdam, 3 cs. Tyne S. S. Co.

Barytes—
Rotterdam, 150 bgs. Tyne S. S. Co.
Antwerp, 300 ,,

Castor Oil—
Antwerp, 36 brls. Tyne S. S. Co.

Colours—
Ghent, 4 brls. Tyne S. S. Co.
Hamburg, 4 cks. ,,
Antwerp, 2 ,,

Glue—
Rotterdam, 4 cs. Tyne S. S. Co.

Kieselguhr—
Bergen, 78 bgs.

Pitch—
Antwerp, 21 brls. Tyne S. S.

Pyrites—
Huelva, 1,140 t. Th Sulphur & Copper

Starch—
Antwerp, 200 cs. Tyne S. S.
Ghent, 20 ,,
Rotterdam 92 ,,

White Lead—
Antwerp, 20 brls. Tyne S. S.

Wood Pulp—
Christiania, 780 bls.

Zinc Ashes—
Antwerp, 1 ck. Tyne S. S.

GOOLE.

Week ending March 9th.

Alizarine—
Rotterdam, 65 cks.

Alkali—
Calais, 3 cks.

Caoutchouc—
Boulogne, 4 cks.

Chemicals (*otherwise undescrib*
Hamburg, 1 ck.

Colours—
Hamburg, 24 cks. 10 cs.

Dyestuffs (*otherwise undescrib*
Boulogne, 5 cks. 41 pks.
Rotterdam, 312 80 cs.

Farina—
Hamburg, 500 bgs.
Delfszyhl, 1,190

Glucose—
Calais, 100 bgs.

Logwood—
Belize, 415 t.

Ochre—
Calais, 31 cks.

Phosphate—
Dunkirk, 800 bgs.
Ghent, 1,500

Potash—
Calais, 56 dms.
Dunkirk, 40
Rotterdam, 2 cks.

Pyrites—
Seville, 1,070 t.
Huelva, 969

Saltpetre—
Hamburg, 40 cks.
Antwerp, 85 bgs.

Soap—
Rotterdam, 7 cs.

Starch—
Ghent, 196 cs.

Tartar—
Rotterdam, 6 cks.

Waste Salt—
Hamburg, { 52 t. 200 bgs.

GRIMSBY.

Week ending March 12th.

Albumen—
Hamburg, 5 pks.

Caoutchouc—
Rotterdam, 5 cs.
Hamburg, 17 pks

Chemicals (*otherwise undescri*
Hamburg, 2 pks

Colours—
Hamburg, 23 cks. 1 cs. 66 pks
Antwerp, 9 51

Dyestuffs (*otherwise undescri*
Dieppe, 23 cks.

Farina—
Hamburg, 200 bgs.

Pitch—
Hamburg, 30 cks.

Plumbago—
Hamburg, 1 ck.

Soap—
Hamburg, 1 cs.

Varnish—
Antwerp, 1 cs.

Wood Pulp—
Malmo, 20 bls.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

eek ending March 16th.

—
burg, 6 t. 15 c. £135
lizabeth, 5 49
lton, 10 6 67

nia—
erp. 20 cyldrs. £70
ourne, 4 cs. 12

nium Carbonate –
raiso, 1 t. 10 c £39
n, 5 10 135
n, 2 1 48

nium Chloride—
ide, 1 t. £24
ne, 20 cks. 89
ev, 1 35

nium Sulphate—
erara, 75 t. 4 c £789
ra. 150 1,200
abo, 14 3 160
cia, 131 1,320
d, 241 9 2,320
inique, 123 1,260
e, 80 620
llon, 205 2 1,999
irk, 300 16 2 907
lton, 3 3 45

phous Phosphorus—
le Janeiro, 4 c. £53

ic—
elton, 50 dms. £47

hing Powder—
lizabeth, 80 dms. £13

—
ourne, 1 t. 5 c. £17
to, 2 cks. 11
lizabeth, 2 14
land, 10 170
isville, 1 14

lic Acid—
ouis, 120 cks £944
n, 20 dms. 40
, 40 cs. 62
ide, 11 pks. 40
irt, 2 9
ne, 25 108
n, 24 19

nic Acid Gas—
nel Is., 27 tubes £10

ic Soda—
er, 4 c. £9
halmers, 1 t. 16
ondon, 19 9
ey, 17 18
nanton, 3 4 25
lizabeth, 1 2 20

icals *(otherwise undescribed)*
chi, 3 pks. 20 cs. £284
erdam, 3 kgs. 19
hama, 10 236
land, 8 21
ondon, 6 20
n, 3 25
lizabeth, 221 34
erdam, 30 19 563
sels, 3 cks 28
burg, 12 14 204
enburg, 1 12
a, 10 55
ne, 21 10 brls. 180
delphia, 3 28
ng, 3 cs. 13
atta, 3 16
, 12 13
ington, 29 59
ceston, 10 c. 29
din, 10 dms. 5 23

Acid—
burg, 10 kgs. £57
n, 12 c. 57
to, 3 cks. 10
lizabeth, 2 14
, 12 20 77
n, 10 58
ey, 1 cs. 6
hama, 70 379

Coal Products—
Alizarine
Lisbon, 6 cks. £97
Boston. 25 286
Aniline
Melbourne, 2 cs. £63
New York, 16 dms. 570
Anthracene
Rotterdam, 582 cks. £1,530
Gothenburg, 235 173
Benzol
Treport, 31 cks. £86
Rotterdam, 83 360
Cologne, 20 dms. 216
Antwerp, 6 41
Creosote
New York, 574 cks. £409
Naphtha
Treport 30 cks. 47 brls £280
Naphthaline
Hamburg, 100 cks. £19
Boston, 10 10
Dusseldorf, 500 bgs. 244
Pitch
Dieppe, 133 t. £232
Dunkirk, 835 1,100
Halifax, 66 cks. 43
Hamburg, 14 26
St. Michael's, 6 brls. 7
Alexandria, 350 104
Philadelphia, 200 90
Leghorn, 1,200 1,650
Boston, 306 200
Antwerp, 45 126
St. John's, N.B., 300 90
Aviles, 1,150 1,208
Tar
E London, 100 dms. £5
St. John's, N.B., 100 cks. 50
Tar Salts
Pt. Elizabeth, 3 cs. £35
Toluol
Rotterdam, 10 cks. £175

Coal Products *(otherwise undes.)*—
Adelaide, 50 dms. £9

Copper Sulphate—
Odessa, 9 t. 17 c. £147
Naples, 45 684
Leghorn, 20 304
Paris, 111 1,857
Genoa, 72 1,095
Bordeaux, 30 496
Antwerp, 5 10 65
Hamburg, 10 160
Treport 10 168
Suez, 1 2 17
Christchurch, 2 24
Delagoa Bay, 5 9

Corrosive Sublimate—
Bombay, 5 cs. £57
Lisbon, 1 27
Salonica, 4 c. 60

Cream of Tartar—
Adelaide, 10 c £39
Wellington, 10 41
Libau, 10 cks. 40

Disinfectants—
Brisbane, 5 cs. £25
Durban, 2 cks. 2 20
Melbourne, 20 52
Pt. Elizabeth, 60 22
Bombay, 30 80 dms. 27
Penang, 10 200 160
Sydney, 96 18
Jamaica. 12 12
Adelaide, 1 10
Christiania, 10 21
Cape Town, 125 47

Dried Blood—
Dunkirk, 67 t. 18 c. £360
Antwerp, 49 14 250

Hydrochloric Acid—
Trinidad, 3 t. 2 c. £10

Lime—
Pt. Said, 3 t. 17 c. £10

Manure—
Guernsey, 7 t. £36
Reval, 17 c. 14
Bordeaux, 10 30
Rouen, 77 3 243
Martinique, 89 5 470
Cape Town, 10 15

Phosphate—
New York, 46 t. £403
Launceston, 55 129

Phosphorus –
B Ayres, 10 c. £98
Lisbon, 6 cs. 58
Oporto 3 25

Potash—
Brussels, 5 c. £45

Potassium Bichromate—
Madras, 3 cks. £39

Potassium Carbonate—
Philadelphia, 2 t. 10 c. £18

Potassium Chlorate—
Calcutta, 1 t. £31
B. Ayres, 1 31
Rio de Janeiro, 1 10 c. 46
Sourabaya. 2 10 82

Potassium Cyanide—
B. Ayres, 1 t. £121
Fremantle, 12 60
Pt. Elizabeth, 7 719
Sydney, 2 220
Townsville, 4 448
Melbourne, 7 16 75 cs. 1,586
Adelaide 2 3 240

Salicylic Acid—
Sydney, 10 c. £91

Saltpetre –
Vigo, 3 t. 9 c. £63
Corunna, 1 16 36
Wellington, 3 61
Oporto, 16 12 310
Pt. Elizabeth, 11 11

Sheep Dip –
B. Ayres, 1,450 cs. 5 t. 16 c. £3,619
Pt Elizabeth, 11 19 316
E. London, 3 150 dms. 47

Soda—
Pt. Elizabeth, 18 c. £4
Rotterdam. 5 t. 30

Soda Ash—
Oporto, 10 c. £7

Sodium Bicarbonate—
Marseilles, 10 t. £72
Pt. Elizabeth, 4 19 c. 71
E. London, 9 6
Launceston 1 7

Sodium Potassium Tartrate—
Boston, 10 c. £32

Sodium Prussiate—
Hamburg, 10 c. £18

Sodium Sulphate—
Karachi, 1 t. £6

Sodium Tartrate—
Melbourne, 5 cs. £16

Sulphate of Lime—
St. Michael's, 13 c. £11

Sulphur—
E. London, 50 kgs. £17

Sulphuric Acid—
Madras, 14 cs. £12
Pt. Elizabeth, 4 t. 10 c. 38
Durban, 20 pks. 16

Superphosphates—
Trinidad, 50 t. £185
Martinique, 160 500

Tartaric Acid—
Boulogne 5 c. £29
Melbourne, 1 t. 117
Sydney, 10 57
Hamburg, 1 116

LIVERPOOL.

Week ending March 16th.

Alum—
Sydney, 3 t. £15
Volo, 1 10 c. 7
Portland, 2 12 12
Rangoon, 2 19 17
Melbourne, 1 1 2 q. 5
B. Ayres, 11 3
Halifax, 19 1 5

Aluminoferric—
Calcutta, 15 t. 6 c. 3 q. £41

Ammonium Carbonate –
Tampico, 1 c. 3 q. £3
Toronto, 16 20
Melbourne, 3 5
Barcelona, 1 t. 29

Ammonium Chloride—
Toronto, 7 c. 1 q. £12
Colombo, 1 1
Alexandria, 3 t. 16 123
Philadelphia, 5 70
B. Ayres, 1 10 50
Barcelona, 2 16 52
Gothenburg, 6 2 11
Syra, 10 16
Alexandretta, 1 10 52
Smyrna, 15 25
Beyrout, 15 25
Galatz, 1 8 45
C. C. Castle, 8 6
Stettin, 7 2 12
Rotterdam, 3 3 6
Genoa, 3 16 68

Ammonium Sulphate—
Alicante, 46 t. 9 c. £423
Huelva, 7 66
Cullera, 70 16 601
Gd. Canary, 45 3 452
Valencia, 363 4 3 356

Amorphous Phosphorus—
Philadelphia, 4 c. £68

Barytes—
Bombay, 3 t. £18

Bleaching Powder—
Amsterdam, 27 cks.
Barcelona, 5
Boston. 378
Gothenburg. 27
Lisbon 65
Philadelphia, 410
Rouen 84
Valencia. 10
Vera Cruz, 30 brls.
Vigo, 8
Windsor Mills, 39

Boracic Acid—
Antwerp, 10 c. £14
Brisbane, 1 t. 28
Portland, M., 2 16 70

Borax—
Vera Cruz, 1 t. 1 c. 3 q. £15
Antwerp, 12 8
Berlin, 21 17 3 303
Bremen, 10 5 2 154
Brisbane, 1 16
Stettin, 1 2 16
Natal, 1 4 17
Sydney, 2 33
Galatz, 12 8
M. Video, 1 4 18

Calcium Chloride—
Rangoon, 3 t. £7
Calcutta, 1 2
Hamburg, 15 15 34

Carbolic Acid—
Rouen. 2 t. 7 c. 2 q. £134
Rotterdam. 10 608
Hamburg, 15 50
Sydney. 15 32
New York, 5 12 15 cks. 444

Caustic Soda—
Alexandria, 34 dms.
Amsterdam, 206
Antofagasta, 10
Antwerp, 140 15 pks.
Bahia. 260
Barcelona, 32
Batavia, 15
Bilbao, 45 20 brls.
Boston, 50
Corunna, 18
Genoa 90
Hamburg, 103
Malaga, 28
Maranham, 13
Melbourne, 87
Monterey, 30
Nantes, 120
Naples, 40
Newcastle, 56
New York, 25 bxs. 190

Oporto, 2 10 cks.
Pt. Elizabeth, 5
San Sebastian, 130
Santos, 50
Shanghai, 40
Singapore, 10
Sydney, 40
Tampico, 40
Tarragona, 68
Toronto, 60
Trinidad, 25
Valencia, 45
Valparaiso, 135
Wellington, 20

Chemicals *(otherwise undescribed)*
Karachi, 15 c. £23
B. Ayres, 2 t. 18 45
Barcelona, 4 16 70
Palermo, 10 7
Rosario, 2 18 45
Smyrna, 1 23
Tarragona, 1 19 28
Calcutta, 51 3 1 q. 155
Philadelphia, 13 7 396
Canada, 5

China Clay—
Bombay, 45 t.
Boston, 590 cks.
Naples, 40
New York, 30
Philadelphia, 654
Portland, 500
Sherbrooke, 100

Citric Acid—
New York, 11 c. £63
Montreal, 10 56

Coal Products—
Aniline Colours
Boston, 6 kgs.
Aniline Oil
Boston, 5 dms.
Philadelphia, 25
Aniline Salts
Alexandretta, 6 brls.
Philadelphia, 60 cs.
Piræus, 10 cks.
Santos, 10
Creosote Oil
Bordeaux, 500 cks.
Boston, 210 brls.
Pitch
Bourgas, 40 brls.
Valparaiso, 10
Tar
Philadelphia, 250 brls.
Puerto Cabello, 20 cks.
St. John's, Nf'd., 50 25 kgs.

Cobalt Oxide—
Gijon, 1 c. 3 q. £62

Copper Sulphate—
Galatz, 5 t. 15 c. £96
Trieste, 10 6 170
Marseilles, 5 1 2 q. 83
Palermo, 5 3 79
Brindisi, 6 9 98
Christiania, 9 2 8
Piræus, 4 3 4
Beyrout, 5 4
Zante, 18 3 15
Cette, 724 6 1,683
Charente, 57 19 3 983
Guayaquil, 2 10 42
Valparaiso, 2 12 50
Rotterdam, 5 1 3 88
Leghorn, 231 12 1 3,727
Bordeaux, 72 12 3 979
Oporto, 65 16 2 1,045
Genoa, 289 16 2 4,592
Naples, 96 2 1,499
Catania, 12 6 187
Lisbon, 100 8 2 1,670
Venice, 113 2 1 1,772
Algiers, 16 10 3 260

Copperas—
Piræus, 13 t. 17 c. £24
Halifax, 1 3 2 q. 7
Cape Town, 3 14 7

Dried Blood—
Dunkirk, 20 t. 4 c. 1 q. £148
Alicante, 3 19

Iron Oxide—
Philadelphia, 10 t. £46
Odessa, 20 5 c. 1 q. 85

Magnesia—
Havana, 1 t. 17 c. 2 q. £62
Trieste, 1 cs.

Magnesium Sulphate—
Rio de Janeiro, 200 kgs.

Manure—
Bordeaux, 9 t. 2 c. £40
Havre, 20 80
Marseilles, 20 3 82
Genoa, 15 12 3 q. 69
Valencia, 16 16 115

Oxalic Acid—
Barcelona, 15 c. 3 q. £27

Paint—
Alexandria, 60 kgs.
Amapala, 20 cs.
Belize, 4 cks.
Bombay, qty.
Calcutta, 70 pks.
Cavite, 6
Cienfuegos, 7
Conakry, 8 500
Gibraltar, 28
Havana, 1
Havre, 7 30
Lagos, 50 dms.
Leghorn, 4 cs.
Lisbon, 12 1
Manaos, 20 cks.
Malta, 80
Maracaibo, 75
Nassau, 3 pks.
St. John's, N'fld., 2
San Juan, 75
Santo Antonio Do Zaire, 100
Singapore, 20 dms. 1,001
Smyrna, 105
Valparaiso, 9 158 cs. 60
Warri, { 13 / 1 ck.
Yokohama, 149 pks.

Painters' Colours—
Acajutla, 15 pks.
Antofagasta, 11
Babia, 2
Bombay, qty.
B. Ayres, 175
Manila, 5 cks.
New York, 101 brls. 1 cs.
Oporto, 11
Panama, 2 3 cks.
Para, 30
Rio de Janeiro, 15 kgs.
Rotterdam, 2 cs.
Rosario, 63
Talcahuano, 164
Valleyfield, 2 cks.
Valparaiso, 117 9

Paraffin Wax—
Leghorn, 30 bgs.
Patras, 95 10 cs.

Phosphorus—
Shanghai, 1 t. 8 c. £235
Hiogo, 1 18 405
N. Orleans, 1 16

Picric Acid—
N. Orleans, 17 c. 3 q. £90
New York, 10 3 60

Potash—
B. Ayres, 8 c. 2 q. £5
Malaga, 1 t. 12 2 57

Potassium Bicarbonate—
New York, 1 t. 15 c. £51

Potassium Bichromate—
Barcelona, 3 t. £106
Santos, 1 19 c. 68
Aleppo, 11 21
Vera Cruz, 1 46
Rotterdam, 1 8 49

Potassium Carbonate—
Para, 1 t. 15 c. £38

Potassium Chlorate—
Hamburg, 1 t. 5 c. £38
Palermo, 2 14 76
Rio de Janeiro, 3 18 113
Puebla, 1 1 34
Vera Cruz, 11 2 q. 18
Yokohama, 2 14 15
Wellington, N.Z., 5 8
Hiogo, 27 16 834
Sydney, 10 300
New York, 19 14 525
Rotterdam, 2 64

Potassium Prussiate—
Halifax, 5 c. £15

Potassium Silicate—
Amsterdam, 1 t. 4 c. 2 q. £10

Salt—
Akassa, 614 t. 4 c.
Axim, 12 10
Benin, 46 17
Bentry, 156 9
Boston, 200
Calcutta, 125
Cape Lahou, 12
Cape Town, 18
Chicago, 200
Colombo, 3
Dreyfjord, 79 10
Dubreka, 650 16
E. London, 22 7
Ghent, 205
Gd. Lahou, 25
Landana, 8 15
Loango, 29
N. Orleans, 100
New York, 225
Old Calabar, 60 5
Para, 200
Philadelphia, 56 cks.
Pt. Elizabeth, 5 7
Rio de Janeiro, 150 cs.
Rotterdam, 110
Sapeli, 46 17 c.
Sherbro, 350
Sette Cama, 25
St. John's, N'fld., ½
Sydney, 75
Trinidad, 15 10
Warri, 31 5
Wellington, 110 100 sks.
Winnebah, 32 10

Salt Cake—
Antwerp, 4 t. £8
Philadelphia, 40 9 c. 61
Baltimore, 65 12 98

Saltpetre—
Maranhao, 9 c. 3 q. £10
Ceara, 1 t. 4 25
Yloilo, 14 14
Ciuaba, 5 6
Bahia, 3 4 113

Satinite—
Bilbao, 10 t. 15 c. £32

Sheep Dip—
Calcutta, 1 t. 16 c. £63
Algoa Bay, 1,000 dms. 125

Soap—
Accra, 50 bxs.
Alexandria, 26 5 cs. 21 pks.
Algoa Bay, 3,260 40 25 bdls.
Auckland, 300
Axim, 20
Bangkok, 100
Berne, 255
Bombay, 460 24
Calcutta, { 12 300 / 7 pks.
Cape Coast, 100
Cape Town, 1,500
Carbonear, 20
Chama, 50
Christchurch, 300
Conakry, 66
Delagoa Bay, 2,460
Dunedin, 400 2
E. London, 3,100 50
Guayaquil, 50
Hong Kong, 800
Iquique, 1
Johannesburg, 50
Karachi, 25
Lagos, 460
Lisbon, 1
Manaos, 500
Mollendo, 20
New York, 89
Old Calabar, 360
Para, 201 1
Philadelphia, 4
Pt. Elizabeth, 750 60
Pt. Natal, 725
Pram Pram, 40
Rangoon, 510 4
Rawal Pindi, 12
St. John's, N'fd., 565 20
St. Thomas, 300
Salonica, 11
Salt Pond, 40
San Francisco, 25
Savanilla, 6
Shanghai, 2,518
Talcahuano, 10
Trinidad, 5
Valparaiso, 21
Wellington, 500
Winnebah, 135
Winnipeg, 313

Soda—
Leghorn, 18 dms.

Soda Alkali—
Corfu, 35 brls.
San Domingo, 17
Leghorn, 100
Toronto, 40

Soda Ash—
Acajutla, 15 cks.
Ancona, 50 bgs. 6
Antwerp, 2,846 26
Barcelona, 56
Boston, 520 28
Brisbane, 196 brls.
Calcutta, 50 kgs. 300
Callao 40
Christiania, 11
Genoa, { 100 bgs. / 10
Gothenburg, 50 30
Hamburg, 1,220
Hiogo, 100
Maranham, 75
N. Orleans, 33 tcs.
New York, 900 42
Philadelphia, 1,280 148 10
Rio de Janeiro, 150 } / 100 brls. }
Rockhampton, 80
Rotterdam, 240 2
Salonica, 60
Smyrna, 200
Stettin, 300
Sydney, 252
Toronto, 30 bdls.
Yokohama, 100

Soda Crystals—
Alexandria, 7 brls.
Barcelona, 30 cks.
Calcutta, 33 kgs.
Cleveland, 10
Ghent, 22
Hamburg, 200
Huntsville, 107 bgs.
Iquique, 50 kgs.
New York, 140
Odessa, 35
St. John's, N'fd., 50
Trinidad, 34

Sodium Bicarbonate—
Alexandria, 100 kgs.
Alicante, 25
Antwerp, 10 30 bgs.
Asuncion, 5 cks.
Bombay, 100
Bordeaux, 30
Brisbane, 100 14 5
Calcutta, 415
Chatham, 50
Galatz, 218
Hamilton, 25 15
Johannesburg, 50
Karachi, 20 4
Konigsberg, 100
Leghorn, 110 14
Marseilles, 65
Messina, 36
Monterey, 58
Philadelphia, 50 dms.
Piræus, 30
Rangoon, 6 cks.
Reval, 300
Rotterdam, 27 pks.
Rouen, 385
St. John's, N'fd., 55
Singapore, 6 cks.
Smyrna, 50
Sydney, 400 18
Tampico, 400 40
Trinidad, 20
Varna, 90

Sodium Bichromate—
Venice, 5 cks.

Sodium Carbonate—
New York, 70 brls.

Sodium Chlorate—
Genoa, 20 kgs.
Hamburg, 26
Reval, 100
Rotterdam, 10

Sodium Hyposulphite—
B. Ayres, 10 kgs.
San Francisco, 31 cks.

Sodium Silicate—
Ciudad Bolivar, 6 brls.

Sodium Sulphate—
Ciudad Bolivar, 4 cks.
Ponce, 10

Sulphur—
Boston, 200 t. 2 c. £804
Ceara, 10 4

Sulphuric Acid—
Maranham, 1 t. 6 c. 2 q. £22

Superphosphates—
Valencia, 100 t. 2 c. 3 q. £213
Havre, 30 3 54
Marseilles, 35 2 69
Cullera, 180 4 383
Alicante, 10 27
Las Palmas, 5 14
Teneriffe, 10 35
Genoa, 29 11 1 54
Gd. Canary, 3 2 6
Stettin, 640 1,252

Tartaric Acid—
Toronto, 10 c. £58

Varnish—
Barcelona, 3 dms.
Boston, 16 pks.
Hiogo, 15 cs.
Lagos, 10 dms.
Manila, 8
Valparaiso, 20

White Lead—
Rio Grande Do Sul, 30 brls.
Sierra Leone, 80 kgs.
Zinc Chloride—
Bombay, 3 t. £30

MANCHESTER.

Week ending March 16th.

Alkali—
Tunis, 10 cks.
Alum—
Tunis, 5 brls.
Alumina Sulphate—
Alexandria, 26 brls.
Ammonium Carbonate—
Tunis, 2 kgs.
Tripoli, 2 cks.
Ammonium Chloride—
Susa, 2 brls.
Aniline Colours—
Germany, 1 cs.
Aniline Oil—
Belgium, 5 dms.
Germany, 10 tins 19
Aniline Salts—
Germany, 5 pns.
Borax—
Tunis, 5 cs.
Chemicals (*otherwise undescribed*)
Alexandria, { 10 cks. / 149 brls.
Germany, 7 kgs. 20 bgs.
Hamburg, 10 cks.
Copper Sulphate—
Alexandretta, 4 cks.
Susa, 1 brl.
Copperas—
Alexandria, 100 brls.
Mersyne, 25
Linseed Oil—
Beyrout, 5 brls.
Magnesium Sulphate—
Jaffa, 1 ck.
Naphthol—
Germany, 15 bgs.
Nitro-Naphthaline—
Germany, 4 cks.
Paint—
Beyrout, 5 cks. 6 dms.
Paraffin Wax—
Hamburg, 50 cs.
Holland, 10
Pitch—
Cette, 988 t.
Potassium Bichromate—
Alexandretta, 40 kgs.
Pyridine—
Germany, 12 cks.
Soap—
Malta, 1 cs.
Sodium Bicarbonate—
Alexandria, 27 kgs.
Jaffa, 1 ck.
Susa, 6 kgs.
Tunis, 20
Tar Salts—
Germany, 10 cks.
Toluol—
Germany, 4 cks. 18 dms.

HULL.

Week ending March 12th.

Alkali—
Drontheim, 34 dms.
Reval, 200
Ammonium Sulphate—
Dunkirk, 350 bgs.
Antimony—
New York, 100 cks.
Asbestos—
Hango, 3 cs.
Chemicals (*otherwise undescribed*)
Amsterdam, 172 cks.
Antwerp, 10 cs.
Bergen, 362 slbs.
Christiania, 2 30 pks.
Copenhagen, 14
Ghent, 4
Gothenburg, 10 1
Hamburg, 52 175
Hango, 10 1
Konigsberg, 4
New York, 33
Riga, 38
Reval, 2 21
Rotterdam, 94 11
Stettin, 35 1 14
Cottonseed Oil—
Amsterdam, 3,322 c.
Antwerp, 1,453
Dunkirk, 220
Gothenburg, 50
Hamburg, 1,583
Rotterdam, 1,437
Stettin, 225
Trieste, 19
Glue—
New York, 68 cks.
Linseed Oil—
Antwerp, 100 c.
Christiania, 106
Copenhagen, 35
Drontheim, 71
Hamburg, 191
Rotterdam, 18
Stavanger, 22
Manure—
Riga, 4,767 bgs.
Venice, 430 t.
Paint—
Antwerp, 15 cs.
Hamburg, 1
Painters' Colours—
Antwerp, 25 cks. 1 cs. 26 dms.
Boston, 15
Christiania, { 28 / 8 pks.
Copenhagen, 8 16 1
Drontheim, 1
Ghent, 2 14 dms.
Gothenburg, { 8 pks. / 10 18 dms.
Hamburg, 31 3 10
New York, 56
Palermo, 25 pks.
Reval, 1
Rotterdam, 17 1
Stettin, 78 20 dm.
Pitch—
Antwerp, 288 t.
Hamburg, 11
Soap—
Bergen, 2 cs.
Christiania, 2
Drontheim, 1
Gothenburg, 2 pks.
Hamburg, 3
Reval, 1
Tallow—
Hango, 32 cks.
Tar—
Amsterdam, 6 cks.
Antwerp, 20 brls.
Copenhagen, 5
Hamburg, 48
Stettin, 15
Varnish—
Amsterdam, 2 cs.
Antwerp, 2 cks. 1
Christiania, 2 dms.
Copenhagen, 4 pks.
Ghent, 1
Gothenburg, 4 dms.
Hamburg, 3 brls.
Harlingen, 4
Rotterdam, 10
Whiting—
Hamburg, 20 bgs.

GLASGOW.

Week ending March 17th.

Ammonium Sulphate—
Rotterdam, 63 t. 10 c.
Hamburg, 86 3
Demerara, 153 19½
Trinidad, 161 16½
Antimony Fluoride—
Karachi, £23
Bleaching Powder—
Canada, 23 t. 3 c.
Borax—
Rotterdam, £93
Johannesburg, 125
Caustic Soda—
Huelva, 2 t. 15¾ c.
Seville, 62 2¾
Coal Products—
Benzine
France, £363
Benzol
Hamburg, 5¼ c.
Creosote
France, £3,600
Naphtha
Rotterdam, £255
Pitch
Antwerp, £90
Genoa, 118 t. 18 c.
St. Nazaire, 1,106 14
France, 2,885
Hamburg, 10
Bombay, £23 15s.
Gothenburg, £98
Madras, 20
Tar
Rotterdam, £137 10s.
Rangoon, 21
Colombo, 20 14
Madras, 35 15
Coal Products (*otherwise undes.*)—
Rotterdam, £180
Amsterdam, 160
Extracts—
St. Hyacinthe, £67
Iron Sulphate—
Bombay, £58
Lead Nitrate—
Canada, £38 10s.
Logwood—
Oporto, £67
Manure—
Demerara, 10 3½ c.
Oxalic Acid—
Gothenburg, £22
Paint—
Calcutta, £175
B. Ayres, 47
Painters' Colours—
Cape Town, qty.
Calcutta, £29
Colombo, ,,
Natal, ,,
Paraffin Wax—
Fiume, £729
Trieste, 784
Rotterdam, 40
Venice, 148
Madras, 40
Spain, 29
Phosphoric Acid—
Trinidad, £22
Potassium Bichromate—
Antwerp, £113
Rotterdam, 73
Canada, 212
Oporto, 246
Rosin Oil—
Antwerp, £40
Soap—
E. London, 8 t. 15 c.
Bombay, 2 12½
Sodium Bichromate—
Antwerp, 3 t. 3 c.
Barcelona, 5 3¼
Starch—
Rotterdam, 4 t. 15 c.
Sulphur—
Trinidad, 4 t. 13¾ c.
Sulphuric Acid—
Rangoon, £33
Colombo, 35
Madras, £27 15s.
Trinidad, £40
Tallow—
Rotterdam, 6 t. 3 c.
Amsterdam, 1
Bilbao, 5 15
Oporto, 1
Treacle—
Cape Town, 1 t. 10 c.
E. London, 1 10

TYNE.

Week ending March 12th.

Alkali—
Amsterdam, 29 t. 16 c.
Hamburg, 21 7
Rotterdam, 5 18
Ammonium Carbonate—
Halmstadt, 2 t. 9 c.
Ammonium Sulphate—
Dunkirk, 101 t. 6 c.
Rotterdam, 5
Anthracene—
Rotterdam, 39 t. 4 c.
Antimony—
Gothenburg, 1 t.
Rotterdam, 14
Hamburg, 6 10 c.
Genoa, 4
Barium Binoxide—
Antwerp, 10 t. 17 c.
Barium Carbonate—
Hamburg, 30 t. 10 c.
Bleaching Powder—
Gothenburg, 25 t. 5 c.
Antwerp, 100 3
Christiania, 10 18
Copenhagen, 15 3
Rotterdam, 18 6
Odense, 10 2
Amsterdam, 31 8
Horsens, 2
Carbolic Acid—
Antwerp, 5 t. 14 c.
Odense, 12
Caustic Soda—
Christiania, 107 t. 10 c.
Copenhagen, 30 3
Rotterdam, 1 2
Hamburg, 70 1
Amsterdam, 9 15
Genoa, 18 16
Chemicals (*otherwise undescribed*)
Valencia, 60 t. 4 c.
Creosote Oil—
Rouen, 1 t. 12 c.
Manure—
Valencia, 18 t. 12 c.
Paint—
Christiania, 2 c.
Antwerp, 4 t. 1
Rotterdam, 4
Hamburg, 2 12
Phosphorus—
Valencia, 1 t. 17 c.
Pitch—
Rouen, 20 t.
Soda—
Christiania, 8 t. 2 c.
Rotterdam, 12 11
Amsterdam, 21 12
Soda Ash—
Gothenburg, 59 t. 18 c.
Hamburg, 5 10
Sodium Silicate—
Valencia, 10 t. 7 c.
Sodium Sulphate—
Christiania, 20 t.
Sulphur—
Gothenburg, 68 t.
Superphosphates—
Valencia, 21 t. 4 c.
Tallow—
Genoa, 3 t. 8 c.

GOOLE.

Week ending March 9th.

Chemicals (*otherwise undescribed*)
Dunkirk, 4 pks.
Coal Products (*otherwise undes.*)—
Antwerp, 4 cks.
Boulogne, 1 1 cs. 1 dm.
Ghent, 3 9 tins
Rotterdam, 113
Dyestuffs (*otherwise unaescribed*)
Ghent, 2 cks.
Manure—
Dunkirk, 562 bgs.
Hamburg, 176
Pitch—
Antwerp, 593 t.
Soap—
Rotterdam, 1 dm.

GRIMSBY.

Week ending March 12th.

Alkali—
Hamburg, 10 cs.
Port au Prince, 631 dms.
Rotterdam, 5 cks.
Caoutchouc—
Malmo, 2 bls.
Chemicals (*otherwise undescribed*)
Antwerp, 1 ck.
Coal Products (*otherwise undes.*)—
Dieppe, 2 kgs. 1 cs. 11 pks.
Rotterdam, 23 cks.
Colours—
Rotterdam, 2 cks.
Hamburg, 7
Pitch—
Antwerp, 67 t.
Dieppe, 5 brls.

PRICES CURRENT.

WEDNESDAY, March 23rd, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 %, and 40 %	per cwt.	5/9	&	8/9
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 %)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	19	15	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	nett „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- & 33/-		
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	0	0
„ „ (grey) Hull	„	8	17	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	3
„ 50/90	„	0	1	5
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7½
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	8
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	„	0	18	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	7
Copper	per ton	50	13	9
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	45	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7¼
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	17	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	7	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
„ „ (grey) (ex ship	„	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	0	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	5
Oils:—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	5	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2 1/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	12	0	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3⅞
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „ (10 ton lots)		8	0	0
„ „ (70 % Caustic Soda) „ „ „ (10 ton lots)		7	7	6
„ „ (60 % Caustic Soda) „ „ „ (10 ton lots)		6	7	6
„ „ (pure liquor 90° Tw.) „ „ „ (10 ton lots)		3	17	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅛
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	68	5	0
Zinc (Spelter)	„	18	10	0
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

CHEMICAL TRADE JOURNAL

AND

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THE LOCAL GOVERNMENT BOARD OBJECTS.

A PERUSAL of the Stipendiary's remarks in the report of the action against the Manchester Corporation, appearing elsewhere in these columns, will make it clear how strongly this worthy gentleman was opposed to any scheme being suggested which the Corporation could not positively state would meet the demands of the Local Government Board.

They may be stupid demands, but still there is the Board, and their demands are imperative.

Now, although an adjournment was granted, in the face of the Stipendiary's warning, the very difficulty which he foresaw has since assumed definite shape. The Local Government Board have refused to sanction the necessary loan unless the Corporation will purchase an additional 200 acres of land.

The unreasoning persistence with which the Local Government Board continually insist on the purchase of so much land is growing farcical. There is a Gilbertian grotesqueness about the way in which they insist on land being bought, regardless of whether there is any purchasable land within reasonable distance from existing works, and whether it will filter the effluent when it *has* been bought.

These are points infinitely too mundane to concern the colossal intellects that devise our destinies on the Parnassus of Whitehall. It is theirs to dictate and ours to execute.

And yet we fancy these ostrich-like dictators would feel hurt if the Manchester Corporation were to purchase 200 acres somewhere in the Sahara desert and obtain their loan forthwith; albeit such a proceeding would be far more justifiable than the present demands of the Local Government Board.

Years back we referred to the "Cart that blocks the way," and pointed out how hopeless it was to try to enforce river purification generally as long as the controllers of the funds remained so ignorant. Then there was little prospect of the Local Government Board being "reformed." Now we believe this process is in operation. It would seem, therefore, that the best thing to do would be for all Joint Committees, River Boards, and influential Corporations to combine in one determined effort to have this land bogey laid for ever.

On the one hand River Committees insist on sewage treatment, on the other the Local Government Board insist on conditions of treatment which are impossible of attainment in the majority of cases.

Under these circumstances, why not leave the poor "offenders" alone and let the Local Government Board and the River Boards fight it out between them? It is a duty that all river authorities owe to the polluters, and they should see to it at once. If they do not, manufacturers and other polluters will tire of being shuttlecocks.

Of course, the Corporation may choose to avail themselves of clause 235 in the Public Health Act of 1875, over which the Local Government Board has no jurisdiction, and raise

the money under the powers granted in this clause. Very nearly three millions could be borrowed in this way; but, after all, fines are more likely to be cheaper than land, and much less trouble than efficient treatment.

It would possibly be the best way of overcoming the present deadlock to let the matter slide. In time the Joint Committee would obtain a conviction—maximum penalty £20. Later they would obtain a second conviction—maximum penalty £50. An order of Court would follow, at a penalty of £2 per day for every offence after the conviction. At this price it would take a good while to reach the £80,000, which the tentative 37 acres of bacterial filters are to cost. But long before a few thousand pounds had been paid in fines and costs we will guarantee the ratepayers would have taken a lively and practical interest in the sewage question; and would have raised such a furor as would certainly reach even the dull ears of Parliament and the Local Government Board.

Meanwhile the prosecuting authorities would not have been having an altogether enviable time of it, and instead of prosecuting polluters, they would prosecute inquiries as to how long they were to be held up to ridicule to please a benighted Local Government Board department.

In the end the whole matter would perhaps be referred to a special sub-department,—possibly a branch of the Alkali Act department—to the extinction of all local governed Joint Committees, &c., and then we might be able to make some progress in the prevention of River Pollution It would be an interesting experiment at least, and we venture to think, something more—a speedy cure.

THE SUGAR BOUNTIES.

THE following communication has been addressed to all members of Parliament by Mr. E. Tate, the chairman of the British Sugar Refiners' Committee:—

Owing to the prominence given in the Queen's Speech to the foreign State bounties on the exportation of sugar, I venture to send you for your information a short account of the effect these bounties have had on the British sugar refining industry, which, nevertheless, still remains the most important home industry connected with sugar. The enclosed chart clearly demonstrates the effect these bounties have had in increasing the importation of foreign refined sugar, by protecting it in our markets to the detriment of our own and many other British industries. From 1870 to 1884 the quantity of sugar refined in this country ranged from 84 to 85 per cent. of the total consumption, but that from 1884 to 1897, though the consumption had gone up from slightly over 1,000 000 to rather over 1,440,000 tons, the quantity refined in this country had decreased from 842,000 to 602,000 tons—that is, from 84 to 41 per cent. of the total consumption. On the other hand, the importation of foreign refined sugar, protected here by bounties, rose from 85,000 tons in 1870 to 791,000 tons in 1897, an increase of over 800 per cent. There can be no question that we have a constitutional right, like all other British industries, to free competition in our own markets, and that this is denied to us so long as foreign Governments are permitted to protect their manufacturers in British markets by means of bounties—a protection as distinct and definite as if a duty were levied on the home production and the foreign produce admitted free The great fall in sugar took place in 1884, but, owing to the violent fluctuations in price caused by artificially stimulated over-production of bounty-fed sugar and the consequent periodical reaction, the average price of unrefined sugar during the thirteen years, 1884 to 1897, was nearly £13 a ton, while the present cost of production is less than £10. a ton. It is therefore clear that there has been no substantial gain to the consumer or confectioner by the operation of the bounties. It is equally clear that as the cost of production is under £10 a ton the price of sugar, if bounties were abolished and free competition restored, is more likely to remain under than over the average price of the last 13 years But in the case of refined sugar the operation of the bounties is to constantly undersell the refiners of this country in their own markets by means of a fraction of the extra bounty of 10s. a ton on refined sugar, which, though inappreciable to the consumer, is sufficient to deprive our industry of its legitimate profit, and thus to transfer the trade to the foreigner. Foreign refiners have only to sacrifice a small portion of this additional bounty in order to secure the trade, and this sacrifice has been of no advantage to the consumer in this country, since, even if he received the whole of the 10s. a ton, it would only amount to one-fifth of a farthing a pound, a sum quite inappreciable to him, but representing £50,000. a year to a large refiner. International negotiations for the abolition of these bounties have been carried on ever since 1862, and for many years were pressed by every Government, whether Liberal or Conservative, solely with the view of restoring free competition for our sugar refining trade in our own markets It is the bounty-giving countries themselves who now invite a conference, and it is for their security that the penal clause demanded by them is necessary, in order that they may abolish bounties without the fear of other countries destroying the equality which they are now ready to agree to. We therefore hope that Parliament will support Her Majesty's Government in any action they may take in order to secure the abolition of a system condemned by all shades of opinion as opposed to those principles of Free Trade so dear to the large majority of the people of this country, and which is of the greatest possible danger to British and Colonial industry.

NOTES ON AMERICAN CHEMICAL TRADE.

THE Willson Aluminium Company has doubled the capacity of its factory for manufacturing calcium carbide at Holcomb Rock, Va., and has orders on hand for a long time ahead. Its output of calcium carbide since January 1st amounts to over 3,000 tons.

* * *

An order was signed recently by the Circuit Court at Charleston, S.C., authorising the receiver to sell the valuable fertiliser plant of the Wappo Mills. The upset price is fixed at £3,000. The property is situated in St Andrew's parish, on the west bank of the Ashley River.

* * *

The Virginia-Carolina Chemical Company, of Richmond, Va., has recently declared a dividend of 1 per cent. on its common stock, which was paid in March.

* * *

The Horseshoe Phosphate Mining Company's plant, at Charleston, S.C., is to be sold at auction by Receiver Huger.

* * *

The San Diego Land and Town Company is engaging in a chemical manufacturing business, and has erected a factory for that purpose. The object is to utilise the waste fruit of its le non orchards and that of other orchards in manufacturing citric acid and oil of lemon. As lemon trees bear the year round, there will be a constant supply of raw material, which now goes to waste, save as it is plowed into the ground and serves as a fertiliser. The Company will expend some £6,000 in this departure, with the expectation that the industry will prove profitable.

* * *

O. A. Smith, of Atlanta, Ga., is at the head of a company which will erect at Ensley, Ala., near the Semet-Solvay coke ovens, a big plant to consume the tar products of these ovens. The products will be converted into creosote and pitch, etc.

* * *

Dr. W. B. Philips states that by-product coke ovens prove great attractions for other industries, and speaks of a tar factory, roofing-paper manufactory, and so forth. He gives an account of an experiment made with Pratt coal in the by-product coke ovens near Pittsburg. He says there is no doubt whatever that the coal mined in the Birmingham District (Alabama) is suited for use in by-product coke oven plants. A ton of Pratt coal gave 70 per cent of coke, 22 lbs. of ammonia sulphate, and 80 lbs. of tar.

* * *

The Pittsburg Fuel Gas Company is to build a £20,000. plant on the South Side at Pittsburg The Company intends to manufacture 10,000,000 cubic feet of water gas daily for the iron mills and factories near by. The only by-product will be sulphate of ammonia. The incorporators of the Company are Joseph Keeling (Patrick Ridge), W. A. Dinker, Frank L. Slocum, and W. P. Potter.

THE CHEMISTS' EXHIBITION.—This annual exhibition will be held in the Agricultural Hall, London, on June 13th to 17th next, and besides comprising a very large collection of exhibits connected with pharmacy, druggists' sundries, photographic, optical and dental requisites, will contain a special display of advertising appliances and devices of the latest kind, and numerous exhibits relating to the chemical trade. Applications for space should be made at the offices, 44, Bishopsgate Without, London, E C.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in Furnaces for Calcining, etc. J. A. Drake. 6,160. March 14.
Explosives. P. Cornet 6,228. March 14.
Enamel Paint. W. H. Wales and J Cunningham. 6,295. March 15
Extracting Moisture from Granulated Fat. T. Coad. 6,30·. March 15.
Extracting Oil. J. C. W. Stanley and The Fish Oil and Guano Syndicate, Ltd. 6,334. March 15.
Extracting Zinc. S. Stepanoff. 6,460. March 16.
Oxidizing Oils. S. G. Rosenblum and The Commercial Ozone Syndicate, Ltd. 6,464. March 16.
Improvements in Tanning. 6,487. March 17.
Electrolytic Apparatus. W. G. Luxton and The United Alkali Co, Ltd. 6,525. March 17.
Electrolytic Apparatus. W. G. Luxton and The United Alkali Co., Ltd. 6,526. March 17.
Manufacture of White Lead. H. E. Taylor. 6 524 March 18.
Reducing Metals from their Salts. C. E. Acker. 6,635. March 18.
Producing Alloys Electrolytically. C. E Acker. 6,637. March 18.
Producing Gas by Chemical Means without Heat. R. G. Bürstenbinder and F. C. Lauenstein. 6,645. March 18.
Preparation of Cellulose. F. Bühler 6,651. March 18.
Filters. R. J. Robertson 6,715. March 19.
New Alloy. R. J. Roman. 6,723. March 19.
New Alloy. R. J. Roman. 6,729. March 19.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in and Relating to Apparatus Applicable to Evaporating, Concentrating, Distilling, and Condensing Liquids J. Foster, 11, St. Andrew's-drive, Pollokshields Eng. Pat. 8,158. March 30, 1897.

This patent is essentially of a mechanical nature. The concentrator is composed of vertical film tubes, fed through a special distributor. The vapour given off is collected from the top and bottom of the tubes. Arrangements are also provided for removing the concentrated liquor as it leaves the bottom of the tubes. There are two figures.

Improvements in the Purification of Sewage and Polluted Water and in Apparatus therefor. F. P. Candy, Ivy Bank, Ashley-road, Bowdon. Eng. Pat. 4,040. February 15, 1897.

Various methods of constructing stepped-filters, so as to secure intermittent filtration, with aëration, are described. Several ways of dividing up circular tanks with walls reaching nearly to the bottom, and spreading the sewage so as to give an even upward flow, are illustrated. For particulars the specification and the eight figures should be consulted.

Improved Furnaces for the Manufacture of Calcium Carbide, or the like. T. Keene, 9, Elgin-drive, Seabank-road Liscard, Chester. Eng. Pat. 6,648. March 13, 1897.

The furnace is vertical, and consists of an inner reaction chamber and an outer casing, which contracts into a chimney The inner chamber surmounts the hearth, on which the electrodes meet, and is made up of a series of truncated cones, with their smaller diameters downwards, the smaller end of each cone being connected with the larger end of the cone below with a perforated wall. A hollow tube passes through the reaction chamber down to the hearth, and conveys away the gases liberated, or is used to introduce combustible gases. The rest of the gases escape through the openings in the cones into the outer casing. The electrodes pass through the walls in a sloping direction, parallel with charging chutes. The upper portion of the reaction chamber being cone-shaped, helps to carry the burden of the charge and relieve the pressure on the hearth. There are four figures.

Process and Apparatus for Obtaining Nitric Acid from Low-graded Nitro-oxygen Compounds. P. Jeusen, 77, Chancery-lane, London, W.C. (communicated by L. Rohrmann and H. H. Niedenführ, both of Krauschwitz, Germany). Eng. Pat. 29,746. December 15, 1897.

As the percentage of nitro-oxygen compounds in the gases is reduced, it is necessary to increase the reaction surface and the amount of water necessary for the separation of the nitric acid formed. The reaction towers are therefore filled with an increasing number of Lunge-Rohrmann plates, &c., as the gases travel forwards. The last tower is elevated above the rest, and fed with a quick current of water. The latter passes more slowly to the towers beneath, the supply to each tower gradually diminishing as it approaches the gas entrance. The liquid collecting at the bottom of the first three towers is drawn off as pure acid. The gases are dried after leaving the last tower. Warm water may be used if desirable. There are two figures.

An Improved Process of Manufacturing Alkaline Cyanides and other Cyanated Products H R. Vidal, 95, Boulevard Beaumarchais, Paris. Eng. Pat. 9,215 April 10, 1897.

Phospham (having presumably the formula PN_2H), obtained by passing dry ammonia gas over phosphorus, is heated with potassium carbonate, forming a cyanate soluble in water and an almost insoluble phosphate. By adding carbon a cyanide is formed. In the former reaction 9 kilogrammes of phospham are used with 16 kilogrammes of K_2CO_3. In the latter 1·5 kilogrammes of coal are added. The further addition of 4 kilogrammes of sulphur gives sulphocyanide. By substituting 800 kilogrammes of iron for the coal, ferrocyanide is obtained. Gaseous cyanogen is obtained by heating 6 kilogrammes of phospham with 15 kilogrammes of neutral oxalate of potash. By using the acid oxalate and coal, prussic acid is given off. In preparing the ferrocyanide the heating should not be carried beyond a cherry-red.

Improvements in the Production of Nickel Sulphate. T. Savage, Cooper-street, Spring Hill, Birmingham. Eng. Pat. 9,099. April 9, 1897.

Four parts of vitriol (sp. gr. 1·85); two parts of nickel or nickel ore; and one of sodium nitrate, are placed in a steam jacketted pan. The acid is diluted to a gravity of 1·2, and the whole heated. When saturated with nickel, the solution is syphoned off, and the nickel sulphate crystallised out. The nitrate of soda may be suspended in baskets in the acid, and need not be introduced until the mixture of nickel and acid has been prepared. When nickel ore is used, suitable purifying agents may be added during the process.

Improvements in and Relating to Artificial Manures or Fertilizers. A. Gladstone, Dinsdale Lodge, Seaton Carew, Durham. Eng. Pat. 9,369. April 13, 1897.

Ground slag is used as a carrying medium for more concentrated fertilizers. Apart from its action as a carrier (or diluent), it has inherent fertilizing properties and tends to lighten heavy soils. The claim is:—"The use in combination with, and as a base or carrying medium for, artificial manures or fertilizers, of common slag, or the bye-product, or waste from blast furnaces."

MESSRS. C. ZERENNER AND CO.—This firm have been appointed agents for Messrs. A. Klipstein and Co., of New York, for quercitron bark and extract, corn oil, corn starch, logwood extract, and other American products.

SALE OF A CHESHIRE ESTATE.—On Tuesday evening at Crewe, Messrs. Manley offered by auction the Baddiley Estate, including six excellent dairy farms, covering 6,067 statute acres, with a yearly rental of £1,885. The bidding started at £25,000, and rose to £35,000. The property was afterwards sold privately at an enhanced figure. A farm of 38 acres at Edleston realised £75 per acre.

AMALGAMATION OF CANADIAN NICKEL INTERESTS.—Preparations are being made for the introduction of the Bill incorporating the Nickel-Steel Company of Canada, the syndicate of British and American capitalists who propose to erect huge nickel smelting and refining works in Canada, in the event of the Government deciding to place an export duty on nickel ore and nickel matte. The proposal that Canada, which possesses the largest deposits of nickel in the world, shall send out the metal in a refined condition, to the great advantage of thousands of Canadian workmen, instead of in a crude shape, is one of more than national importance. There are but two nickel deposits in the world of commercial value—one in New Caledonia, belonging to France, the other at Sudbury, in British territory.

THE ELECTRICAL SANITATION PATENTS.—In the Bankruptcy Court last week, Mr. Registrar Brougham granted an immediate order of discharge to Paterson and Cooper, electrical engineers and contractors, of Dalston, Westminster, Manchester, Glasgow, and Dundee. —The Official Receiver reported that when the application was set down for hearing, so far back as January, 1897, he was obliged to submit that the assets were not of sufficient value to equal 10s. in the pound on the ranking liabilities. The hearing had been adjourned from time to time to allow of the assets to be realised, and as the trustee now stated that 10s. in the pound would be realised he would withdraw the allegation of insufficiency of assets.—His Honour said there being a clean sheet he could grant an unconditional order of discharge to the debtors.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(*Before Mr. Justice Romer*).

HODGSON AND SIMPSON *v.* KYNOCH (LIMITED).

The plaintiffs were well-known soap manufacturers at Wakefield, where they had been established since 1818. In the year 1891 the plaintiffs purchased the business, goodwill, and trademarks of the Lion Soap Company, which had then been established for several years, and amalgamated its business with their own. The Lion Soap Company had associated its products with the word lion, and with various devices of a lion, and the plaintiffs alleged that the name and device of a lion had in the minds of the trade and public become and were exclusively associated with the plaintiffs' business and products, and contended that their soaps were known on the market as lion soaps. The plaintiffs were also the registered proprietors of trademarks for soap bearing the word and device of a lion. The defendants were the well-known ammunition manufacturers at Birmingham, where their works had been known since 1857 as the Lion Works. They employed some 4,000 hands. They used the device of a lion and a lion's head. They had recently extended their business by making cycling apparatus. They had also more recently manufactured candles and soap, and on the top of their new buildings for a soap factory had erected the figure of a lion, and they had also placed a device of a lion on their soap vans. On their price lists and wrappers for soap appeared the word lion and lion devices. The plaintiffs claimed an injunction restraining the defendants from infringing their trademarks and from selling soap not of the plaintiffs' manufacture in wrappers, etc., bearing the device of a lion or lion's head, or the word lion, and from passing off any of the defendants' soaps as the plaintiffs' soap. The plaintiffs contended that when the defendants came into the soap market the word and device of a lion had already become exclusively referable to the plaintiffs' soap, and that the defendants were taking advantage of the plaintiffs' reputation in connexion with the word and device, and that what the defendants were doing was calculated to confuse and mislead the public. The defendants submitted that they had used the device of a lion in connexion with and as a trademark for their goods for many years previously to the plaintiffs carrying on business, and that a lion or lion's head had always been associated with their firm and its goods. They denied infringement and colourable imitation, and also claimed prior user. What they had done was simply to continue the use of their lion association to cycles and candles and soap. With regard to the question of confusion and deceit of the public, they submitted that if any such could be shown they were not responsible for it, as they had neither prompted nor facilitated the same, and that the plaintiffs to succeed must, in the circumstances, show something more than that there was a danger or risk of confusion. The case which has been in course of hearing four days was again adjourned.

QUEEN'S BENCH DIVISION.

(*Before Mr. Justice Mathew, without a Jury*)

CHEESEWRIGHT AND OTHERS *v.* MCLAUCHLIN—CHEESEWRIGHT AND OTHERS *v.* JOHNSTON.

These were two actions, which were tried together. In the first action the plaintiffs sought to recover from the defendant, McLauchlin, a sum of 500 guineas, the balance of a fee of 1,000 guineas paid by the plaintiffs to an expert for visiting and reporting on certain oil fields in Mexico, and the other action, against Mr. Johnston, was brought to enforce specific performance of a contract made by Mr. McLauchlin, acting, as was alleged by the plaintiffs, as agent under a power of attorney for Mr. Johnston, for the sale to the plaintiffs of the oil fields in question. The learned Judge decided that, as the result of the action for specific performance would settle the other action, he would try the cases together. The two cases came on for trial on March 19, and were concluded last week.

Mr. McCall, Q.C., and Mr. Henry Kisch appeared for the plaintiffs; Mr. Mattinson, Q.C., and Mr. Beddall were for McLauchlin; and Mr. Upjohn, Q.C., and Mr. Beddall for Johnston.

Mr. Johnston, the defendant in the action for specific performance, in cross-examination, denied that he had tried to sell the property, but he did not think it his duty to give the plaintiffs notice that McLauchlin had no authority to deal with the property, and he had never been asked by the plaintiffs whether he had given McLauchlin a power of attorney.

Mr. Yardley Johnston, his son, said that, so far as he knew, his father and Mr. McLauchlin were the only persons interested in the property.

Mr. Upjohn submitted that Mr. Johnston was not a party to the agreement of July, 1897, and that he had given no one a power of attorney or authority to sign his name. The only evidence there was was that a person named McLauchlin, who was not Johnston's agent, said he had done so.

Mr. Mattinson, on behalf of Mr. McLauchlin, said that that gentleman, whom he could not put in the box, was not in position to say that he had a power of attorney to sell this property. He had, however, authority to carry on negotiations for the sale.

Mr. McCall said it was obvious that Mr. Johnston, jun., and Mr. McLauchlin were intended to procure a purchaser for this property. The defendant Mr. Johnston's conduct was only consistent with the existence of a power of attorney. If that power of attorney had not been given them the plaintiffs had been deceived as to its existence. He contended that what Mr. Johnston had repudiated was not the power of attorney, but the terms which McLauchlin had obtained, and which he did not think good enough.

Mr Justice Mathew, in giving judgment, remarked that if he thought that Mr. Johnston had stood by to see what sort of bargain McLauchlin might make, intending to repudiate it if he did not think it good enough, he should decide against him. He, however, did not think that, and was satisfied he was justified in saying that Mr. Johnston had never given McLauchlin authority to sell this property. No suggestion had ever been made to the plaintiffs by McLauchlin that he had a power of attorney from Mr. Johnston. He could not therefore decree specific performance, but, as the plaintiffs were led to believe that McLauchlin had power to sell, he should not give the defendant costs. There would, therefore, in Johnston's case, be judgment for the defendant, without costs. That also disposed of the action against McLauchlin, and in that case there would be judgment for the plaintiffs as against him for £577., with costs.

THE MANCHESTER SEWAGE SCHEME.

ACTION AGAINST THE CORPORATION.

At the County Police Court, Manchester, on Friday last week, the adjourned summons taken out by the Mersey and Irwell Joint Committee against the Manchester Corporation for breaches of the Rivers Pollution Act again came before Mr. Yates, Q.C., the stipendiary magistrate. The case was last before the Court on the 27th November, when a three months' extension of time was granted, to allow the Corporation to decide upon a definite scheme of sewage disposal (*C T.J.* 550, p 356).—Mr. W. H. Wilson appeared on behalf of the Joint Committee, and Mr. Rhodes, barrister-at-law, represented the Corporation.

CASE FOR THE CORPORATION.

Mr. Rhodes said that since the last application to the Court a new Rivers Committee had been appointed by the Corporation, and this Committee was considering the best means of dealing with the sewage of the city. A sub-committee had visited the sewage works in connection with a large number of places, and had given their best attention to every suggestion brought before them. Sir Bosdin T. Leech (Mr. Rhodes went on to say) was desirous of giving evidence, and as he had been under the necessity of leaving for Canada, he had written asking the Joint Committee to consent to a short adjournment. At their meeting on the 21st ult. the Joint Rivers Committee decided to leave the matter entirely in the hands of the learned stipendiary magistrate. Since the letter referred to was written the Rivers Sub-committee of the Corporation had presented a report, which the Rivers Committee at a meeting on the 18th ult. adopted. Copies had been sent to each member of the Joint Committee, and the report would be presented to the City Council at its meeting on April 6. In these circumstances, he asked for a further adjournment of the summons. He would, however, draw attention to one or two statements contained in the report which, he thought, fully justified the present application. The Corporation were first before the Court in September, 1896, and since that time the municipal area had been considerably increased. The amount of sewage treated per day was now twenty million gallons—being an addition of four million gallons—but practically the whole mass of sewage from Manchester was now being treated on the best known principles, and although the standard did not conform to that of the Joint Committee, it would be seen that during the last twelve months the Corporation had made great strides in that direction.

Mr. Yates: Is the treatment now different from that which was in use before September, 1895?

Mr. Rhodes: That I can hardly say.

Mr. Yates: That would be the question.

Mr. Wilson: From our point of view, the effluent is more than twice as bad as in 1896.

Mr. Rhodes said the Corporation were following the advice of their chemical experts. At the beginning of 1897 the sewage from a population of 112,000 people and an area of 1,362 acres was not being treated.

Mr. Yates: It was not coupled up.

Mr. Rhodes: That is so. The Corporation are doing all they possibly can.—After referring further to the report of the Rivers Sub-committee, Mr. Rhodes said he did not ask for a lengthened extension of time, but asked the Court to grant an extension, say, till May 6th. The City Council would meet on April 6th, and again on May 4th. That allowed for an extension of six weeks, which was the shortest time, he was instructed to say, that the Corporation could ask for.

Mr. Yates: Is money to be borrowed to carry out the new scheme? Is the bacteriological system one that the Local Government Board will accede to for a large area like that of Manchester?

Mr. Wilson said he understood the Corporation had sent a deputation to the Local Government Board.

Mr. Rhodes said that the Corporation were in communication with the Local Government Board, whose consent they would have to get to apply some of the money they had for the purpose of the filters.

Mr. Yates: It is said land filtration is the only process the Local Government Board will consent to, and if this is not land filtration it is a waste of time.

Mr. Rhodes said the Board did not lay down such a hard and fast line now. It had been pressed upon them by many local authorities that land filtration should not be insisted upon. There was every disposition on their part to meet the authorities on this question. The Corporation would lay the matter thoroughly before the Court on the next occasion and show that they were

NOT IN ANY WAY SHIRKING

their responsibilities or trying to keep the Joint Committee at arm's length. They were anxious to put an effluent into the Ship Canal which would satisfy the requirements of the Joint Committee. The Corporation Rivers Committee had earnestly entered upon the work, and the time he asked for was, he submitted, only reasonable.

Mr. Wilson said

HE COULD NOT AGREE

with Mr. Rhodes when he said that the Corporation had met the Joint Committee in the best possible manner. He held in his hand a transcript of the proceedings when the matter was last before the Court, and on that occasion his Worship said he would adjourn the case until March 25, but, he added, "this Court will expect from the Corporation some scheme that they can carry out, and which will deal with the sewage in a way satisfactory to the Joint Committee." Sir Bosdin Leech, on the morning of the last meeting of the Joint Committee, forwarded the letter which had been referred to, to Mr. Hulton, the clerk. That letter reached Mr. Hulton five or ten minutes before the meeting was held, and the Committee, feeling that it was a matter of importance, adjourned the meeting for a fortnight. The adjourned meeting of the Joint Committee was held last Monday week, and what did the Corporation again do? On the morning of the meeting they put into the hands of the Committee their report only a few minutes before the Committee met. The Committee had no time to consider so important a matter, and therefore the only position they could take up was to leave the matter in the hands of the learned stipendiary magistrate. Continuing, Mr. Wilson said he wished to draw attention to

ONE OR TWO DISCREPANCIES

between the letter of Sir Bosdin Leech and the report in question. It was a fact that as long ago as 1893 the Davyhulme works were completed practically as they exist to-day, and when the Joint Committee summoned the Corporation no complaint was made with reference to the speed with which the sewers were being coupled up. What they had complained of was that the treatment of the sewage at Davyhulme was absolutely inefficient. The report which had been put before the Joint Committee simply showed that the Corporation had the same precipitation process in vogue as in 1896. The Rivers Sub-committee, in fact, had not recommended a single thing which was not recommended by their predecessors, with the exception of going, *in extenso*, into the various processes adopted by other authorities. The question of artificial filtration was again recommended by the Committee in 1898, as it had been by the Committee in 1897. The only difference was that in 1897 they recommended the Council to construct two filters, whereas to-day they recommended four. The City Council, when the proposal of bacterial filters came before them in 1897, referred it back for further consideration. That was before the inception of the culvert scheme. What guarantee had the Joint Committee that the same thing would not occur again? That report had not been adopted by the City Council, but had been simply drawn up by the Sub-committee and approved by the Rivers Committee. That was one objection. In the report it was further stated that the effluent from the tanks was, with the exception of a very small quantity, passed direct into the canal, and that filtration of the effluent in four small experimental filters was still continued, and the results carefully recorded. Now for some reason there was not a single result referred to or figure given in the report. What were those filters? Four filters which were put down upon the advice of Sir Henry Roscoe and had been in constant use since the 16th December, 1895. Although the Sub-committee had visited many places and adopted the bacterial system, they had practically ignored their own filters altogether. The position of the Corporation to-day was exactly as in 1896, with the exception that the Rivers Committee had appointed a deputation to wait upon the Local Government Board to see whether that Board would allow them to allocate the sum of £25,000. for the construction of filters. If the Corporation were to consider "every known system," they

MIGHT GO ON CONSIDERING TILL DOOMSDAY.

Manchester, with the exception of a few very sparsely populated districts, was the only town in the watershed that was without an efficient scheme, at any rate on paper. Manchester had not got it on paper to-day, although the tanks at Davyhulme were finished so long ago as 1893. To illustrate the necessity of an efficient scheme, he would draw the attention of the Bench to the varied analyses of sewage during the last two years. In 1896 the oxygen absorbed was 2·18 in a four hours' test; free ammonia 1·72, and albuminoid ·134. In 1897 the oxygen had gone up to 4·03, free ammonia to 2·07, and albuminoid to ·267. In 1898 it had gone up to—oxygen absorbed 5·30, free ammonia 1·84, albuminoid ·355. What different treatment had the Corporation adopted? None whatever. The effluent was

DAILY AND MONTHLY BECOMING WORSE.

It was three times as bad as it was when the Corporation consented to the order of the court. He (Mr. Wilson) was instructed to place these discrepancies before the court. The Corporation came month after month, and year after year, and the Joint Committee felt that such delays were unjust to the poorer and smaller authorities of the district.

Mr. Yates said the court was in the same position as in 1896, when Manchester consented to an order. In the interval, without speculating upon what had been going on, it was clear nothing practical had been done towards the effective treatment of the sewage, and it might be necessary for the court on the next occasion to impose a penalty, a course which he should not like to adopt. He would consent now to

A SHORT ADJOURNMENT,

but would point out that on the next occasion, if any lengthened adjournment was to be applied for, the Corporation would have to satisfy the court that there was some practical scheme for dealing with the effluent, not only in the air, but nearer home, and also that it was such a system that the Local Government Board would agree to. It was no use bringing forward a scheme and asking for an extension of time if the Local Government Board would not pass it.

The case was then adjourned until May 11.

Parliamentary Jottings.

COMMERCIAL TREATIES WITH GERMANY AND BELGIUM.

In the House of Commons last week, Sir G. Baden-Powell (Liverpool, Kirkdale) asked the Under-Secretary of State for Foreign Affairs whether in the negotiations for the new treaties of commerce with Germany and Belgium due consideration was being given to securing most-favoured-nation treatment for goods the produce of the United Kingdom; and whether similar treatment could be secured for goods the produce of any British colony which might desire to secure this trade advantage.

Mr. Curzon: Yes, sir. The object of her Majesty's Government is to endeavour, in the new treaties with Germany and Belgium, to secure the continuation of most-favoured-nation treatment for British goods and to obtain for the British colonies faculty of accession to the treaties when concluded.

In answer to Sir H. Vincent,

Mr. Curzon said: Negotiations with Germany and Belgium are now proceeding. It would be contrary to all practice to submit the terms of the new treaties in advance to Parliament. But the Governments of the self-governing colonies will, of course, be consulted, through the Colonial Office, as to their wishes with regard to accession to the treaties.

In answer to Sir G. Baden-Powell,

Mr. Chamberlain said: The self-governing colonies have not been specially consulted, but they are aware that negotiations are in progress, and that any representation from them as to their special interests will receive attentive consideration at the hands of her Majesty's Government. They will not be included in any treaty without their consent.

THE PATENT ACT.

On Tuesday, Mr. Cawley asked the President of the Board of Trade whether the referee appointed by the Board of Trade had given his decision in the test case Levinstein *v.* Farbewerke, vormals Meister, Lucius, und Bruning, for a compulsory licence under section 22 of the Patent Act, 1883; and, if not, whether he could state when the decision would be given.

Mr. Ritchie: I understand the referee will make his report to the Board of Trade in the course of a few days.

Reports of Companies.

ROBURITE EXPLOSIVES COMPANY, LIMITED.

THE eighth ordinary general meeting of the shareholders was held last week at Cannon-street Hotel, London. Lieutenant-General Sir John Stokes, who presided, said the information he had to give with regard to the current year's business was, on the whole, satisfactory, while the report for the past year was not so unfavourable as the balance-sheet might lead them to think. The net profit for 1897 amounted to £74, whereas in 1896 they had a loss of £728. Moreover, the volume of business had been larger than those figures indicated, because owing to keen competition they had been compelled to reduce their prices. The coming into force of the Coal Mines Regulation Act, 1896, had had a marked effect on their sales; the quantity sold since January 1 up to the present time having exceeded by ten tons that sold during the same period of their best previous year, 1894. Roburite had maintained its reputation as a safety explosive, and their new explosive, Amvis, was being largely used in coal mines instead of gunpowder. The Board thought the Company had a brighter future than it had had for some time. The reduction of their capital, in accordance with the resolutions passed by the shareholders, had rendered available for distribution the profits they hoped to make, and, indeed, were now making, because they would not have to take into consideration just yet the question of depreciation. He did not think they would this year earn more than would be sufficient to pay the dividend on the preference shares, even if they did so much as that. It must not be forgotten, moreover, that there were long arrears of dividend on the preference shares to discharge before the ordinary shareholders could get anything. He concluded by moving the adoption of the report, which was seconded by Mr. C. Cockson.—After some remarks by Mr. Harris Bigg-Wither (general manager) regarding the Company's explosives, the report was adopted.

MASON AND BARRY, LTD.

The directors, subject to completion of audit, recommend payment of a dividend out of profits for the twelve months ended December 31 last of 4s. per share free of income-tax. An extraordinary general meeting will be called to follow the ordinary meeting, at which a special resolution will be submitted, authorising an application to the court for its sanction to a further return to the shareholders of £1. per share of capital.

THE CARELESS USE OF QUICK-DRYING PAINT.

LAST week, Mr. F. N. Molesworth resumed the inquest at Middleton on the body of William John Brazier, 24, a storekeeper, who met his death while at work at Tonge Spring Chemical Works (Messrs. W. G. Thompson and Company), as briefly reported in our last issue. Mr. Dawson, factory inspector, was present, and the relatives of the deceased man were represented, as were also Messrs. Thompson.—Edmund Bardsley, aged 15, who was injured by the explosion, said that on the Tuesday in question he was sent by the chemist of the works to Brazier, the storekeeper, for some bark extract. When he got to deceased the latter was emptying a keg of paint into a large tin vessel. Brazier lit a cigarette and began smoking. He then placed the lighted match in the narrow neck of the tin and the paint immediately became ignited. For the purpose of putting out the flames deceased stuffed pieces of cloth into the neck of the vessel, but the flames spread, and both witness's and deceased's clothing became ignited. Then there was a loud explosion, the barrel containing the red paint, which had also become a mass of flames, bursting. Both of them were badly burned, and Brazier died the same evening. Bardsley was put through a severe cross-examination by Mr. Dawson as to whether he had been warned that no smoking was allowed on the premises, and he distinctly stated that so far as he knew there was no rule to that effect, and he had seen many persons smoking. Neither had he had any instructions to the effect that the paint would be liable to fire.—William Fletcher, manager of the works of Messrs. W. G. Thompson and Company, said that no men were allowed to smoke on the premises, and the men were informed to that effect.—The Coroner: How long have you used this paint? Ten years.—And did you not know that it was volatile? No.—What kind of paint was this? Quick-drying.—And don't you know as a man of ten years' experience that all quick-drying paints are apt to be volatile and will explode when fire is brought near? No, I never tested it.—Thomas Fakeman, manager of Pakeman's colour, paint, and varnish works, Manchester-road, Stockport, spoke to supplying Thompsons with the paint in question. No warning as to its volatile character was issued with the paint, simply because it was matter of common knowledge that all quick-drying paints were volatile. The flash-point was rather high. Asked how he could explain the explosion, Pakeman said that when the flames were confined to the interior of the keg and all means of escape shut off the only alternative was explosion.—In summing up the evidence, the Coroner said there was a lack of proper precautions at the works where Brazier met his death. The question for the jury to decide was whether there was criminal negligence, but for his part the evidence did not show any vestige of such negligence.—The jury returned a verdict of accidental death, and commended Bardsley for his straightforward evidence.

THE PETROLEUM COMMITTEE.

COL. MAJENDIE DEFENDS LOW FLASH OIL.

SIR VIVIAN MAJENDIE'S "open mind" is still shut against the case for high-flash oil. That is the net result of his evidence before the Select Committee on Petroleum, on Monday, and as the remainder of his examination is to deal only with storage and transport proposals—of quite minor importance compared with the flash-point—we have now his whole case before us. If Sir Vivian Majendie had represented the American Oil Trade instead of the Home Office his evidence could not have been more carefully designed to forward their interests. Its veneer of impartiality was of the thinnest, and while in form submitting the points to the judgment of the Committee, Colonel Majendie took care to thrust forward every possible objection—real or chimerical—against raising the flash point, and to overlook every argument in its favour. The case for the Rockefeller oil the Committee have now neatly summarised for them by Col. Majendie; the case for high-flash they must dig out for themselves from thick Blue-books.

Before we examine a few of the remarkable things Colonel Majendie did say, let us set out four vital facts which he did *not* mention.

1. He entirely ignored the existence of the Standard Oil Trust, its organisation of experts, and its tremendous interest in maintaining the 73° flash-point.
2. He disregarded entirely the history of the juggle by which the "three chemists' cup" was replaced in the Bill of 1868 by the cup suggested by the Petroleum Association.
3. He never explained why Sir F. Abel recommended 105° oil for barracks and 73° oil for tenement houses.
4. While laying stress on the question of increasing the cost of oil, he never mentioned the fact that the Russian high-flash oil is now being sold at the price of the deadly 73°.

[Nor that it was highly spoken of by Mr. B. Redwood, formerly President of the Petroleum Association and an ardent low-flash supporter.—Ed. *C.T.J.*]

No one would expect an advocate to lay stress on facts that are fatal to his side, but H.M. Chief Inspector of Explosives is not an advocate.

We will now examine in detail Sir Vivian's principal contentions, when it will be evident how flimsy they are.

1. First he says that the flash-point was designed for purposes of storage and transport, and never was intended to be adopted as a standard for the safety of burning oil in lamps as is now advocated.

It is true that the Acts which fix the flash-point deal with storage and not with illumination. But to show how misleading is the inference which Colonel Majendie seeks to draw from this, we will cite a sentence from the joint report of Sir Frederick Abel, Dr. Letheby, and Professor Attfield, on 4th June, 1868, before the passing of the Act of that year:—

> The temperature of 100° Fahrenheit is a safe limit to fix upon as the lowest flashing point or point of ignition of the vapour of petroleum *to be sold for employment in lamps*.

That was in 1868. In 1876 the Abel tester was under discussion, and we find Mr. Boverton Redwood, then chemist of the Petroleum Association, writing to Professor Abel that his association desired a method of testing which would preserve the existing standard of 100°, saying:—

> "As the public, having been educated in the belief that anything over 100° Fah. means safety, and below 100° danger, might associate any lowering of the standard *with increased risk to themselves*."

Will anybody deny that Mr. Redwood was then considering the flashing-point as a measure not only officially of safety in storage but unofficially of safety for burning in a lamp?

2. Colonel Majendie says that what is now desired is to prohibit the sale and use of oils below 105° Fah., and that it is very doubtful whether this would have a remedial effect.

But Mr. Boverton Redwood admitted (1896 Report, Q. 1820) that such a prohibition would be the simplest and most effectual method of preventing lamp accidents "if it were practicable." It must obviously be as practicable to prohibit the sale for lighting of oil adulterated with naphtha as it is now to prohibit the sale for human food of milk adulterated with water or butter adulterated with margarine.

3. Colonel Majendie foresees domiciliary visits of inspectors to ensure that nobody used low-flash oil.

Nothing of the sort would be necessary if the sale were prohibited, but we notice that Colonel Majendie has no objection to domiciliary visits to enforce his proposed lamp law.

4. Colonel Majendie says such a law would prevent the use of petroleum spirit in sponge lamps.

The evidence of the oil trade witnesses showed that this dangerous form of illuminant is being already driven out of the field by the oil. The difficulty is merely controversial.

5. He says that trades in which petroleum or petroleum spirit is used for other than illuminating purposes would be hampered.

Another quibble. It is the sale as burning oil that would be forbidden. If a man bought gunpowder ostensibly for a proper purpose, filled his lamp reservoir with it, and lit it, nobody could prevent him. So with the purchase of low-flash petroleum.

6. Many existing lamps, he says, would be unable to efficiently burn high-flash oil.

Mr. W. Fox, salaried chemist of the Petroleum Association, reported in January, 1892,

High-class oils are in every way safer than low-class oils, *no matter what kind of lamp they are burned in*

Mr. A. Spencer, the L.C.C. officer, in his latest report (which has been furnished to the Select Committee) states that he has experimented with the Russian high-flash oil in all sorts of lamps, and found it excellent in all.

7. Colonel Majendie suggested that the prohibition of low-test oils would paralyse the invention of methods by which such oil could be safely burnt, and would beget false confidence in the public by inducing them to believe that precautions were now unnecessary.

The short answer to both these points is—Why not reduce the flash-point below 73deg. in order to at once stimulate invention and to make the public more careful than ever?

8. Colonel Majendie dragged in the little Crosby lighthouse fire a few weeks ago as a case of a fire caused by high-test oil.

As the lighthouse keeper perished, nobody can state exactly how the fire broke out, but it is almost certain the violent gale smashed in the lantern glass, broke the woodwork, and caused the oil to leak into the chamber below. This was the view of the local fire brigade.

[Moreover it is about the third accident in the last 10 years, whereas last year, alone, the accidents with low-flash oil were numbered by hundreds in London only.—Ed. *C.T.J.*]

9. Colonel Majendie suggests, instead of raising the flash-point, that lamps shall be regulated. That the authorities shall be careful never to "approve" of any pattern of lamp but to only condemn the designs they think "dangerous" or "defective."

This opens up a nice prospect for the retail trader, who will never be able to obtain from the authorities a definition of a "safe" lamp or even a guarantee that any particular make he sells is "safe." At the same time every new official will be ready to pounce upon him with a new theory of what is a "dangerous" or "defective" lamp. As a protection to the public this scheme must be quite illusory, since lamps are liable to get out of order, and even many most expensive lamps are not safe with 73° petroleum.

We hope to see a few of the Colonel's absurdities exposed when his cross-examination takes place.—*The Star.*

Trade Notes.

The Manchester Sewage Difficulty.—The Rivers Committee of the City Council met on Thursday to further consider matters arising out of the Local Government Board's communication which was published on that day. The Committee recommend the laying down of 37 acres of bacteria or filter beds at an estimated cost of £127,000, and that four acres should be proceeded with at once. The Local Government Board, however, insist upon land filtration after the sewage has been treated on the bacterial system. The Committee insist that land filtration is not necessary, that it is too costly, and that the land in their possession or available is not suitable. The Committee, having considered all the bearings of the question, resolved to borrow money to carry out their scheme, under the Public Health Act, 1875, the loan to be on the security of the sewage works. This plan was adopted by Salford in similar circumstances, and the sanction of the Local Government Board will not be required. There was a minority in favour of the Committee reverting to the culvert scheme.

Society of Chemical Industry: *London Section.*—The next meeting will be held on Monday, April 4th, at 8 p.m., in the Chemical Society's Rooms, Burlington House. Business: Election of officers and five members to the local committee. The following paper will be read:—"The Bacterial Treatment of Sewage containing Manufacturing Refuse," by Mr. W. J. Dibdin, F.I.C.

Lumiere's Cinematograph.—Messrs. Fuerst Bros. inform us that they are now prepared to supply the Lumiere cinematograph camera (for projection only) at £20. There are two different models, "A" for the Lumiere gauge, and "B" for the Edison gauge. These machines are in all respects as good as the original Lumiere machine.

Tharsis Sulphur and Copper Company, Limited.—The directors announce a dividend for the past year of 25 per cent., equal to 10s. per share. The sum of £48,047 is written off, and £14,165 is carried forward. The respective figures a year ago were 17½, £38,395, and £15,708.

"Starlight" Toilet Soap.—Under this name Messrs. Lever Bros., Ltd., of Port Sunlight, have just put on the market a pure and neutral toilet soap. From the samples we have before us we can say that the soap lathers readily, is good as regards free alkali, and is delicately perfumed. It is tinted a pale green, the tablets being of a handy size and shape. It is expected to be for the toilet all that "Sunlight" soap is for the laundry.

A New Trade Journal.—A trade journal of a novel kind, so far as Great Britain is concerned, will make its first appearance on April 15th, in the shape of the *Cold Storage and Ice Trades Review*, an illustrated monthly, dealing with ice, ice-making, refrigerating, cold storage, and all the allied industries that employ forced cold—the meat, poultry, game, fish, general provisions, dairy produce, and brewing trades. Cold storage and the use of ice are of such importance, and have made such strides in popular appreciation recently, that it is hoped that this new periodical will render material service.

Fire at a Manure Works.—A serious fire broke out at the chemical manure works of Messrs. Morris and Griffiths, Newport, on Monday night. On the alarm being given the firemen on their bicycles were quickly on the spot, and though a large portion of the premises were destroyed together with valuable stores and machinery, they were able to keep the flames from a new glue factory, recently erected at a cost of £10,000. The building is on the banks of the Usk, and the conflagration illuminated the whole town. The police and soldiers from the barracks rendered valuable aid. The damage amounts to many thousands of pounds.

Low-flash Oils: The Truth at Last.—An inquest was held last week in Belfast on the remains of a man named Joseph Bunting, who died in Belfast Royal Hospital from burns. The evidence showed that Bunting was lighting his pipe with an oil lamp when the vapour ignited, bursting the lamp and scattering the blazing oil all over him. The jury returned a verdict of accidental death, adding a rider advocating the prohibition of the sale of low-flash American oils.—[This is worthy of being mounted and framed. It is the first public recognition of the real source of danger with oil lamps made by the daily press *as a whole*; and in which the old fallacious headline "Paraffin Lamp Fatality" has given place to "Low-flash Oils."—Ed. *C.T.J.*]

The Thornton-Scarth Acetylene Generator.—The Thornton-Scarth Syndicate, of 47, Vittoria-street, Birmingham, advise us that at the International Exhibition held at Berlin, which has just been concluded, they have been awarded a silver medal, being the highest award given to any generator. It is also important to note that insurance companies do not object to acetylene installations. This syndicate has taken the matter up with the Hand-in-Hand Fire and Life Office, who state that the regulations of the Fire Offices' Committee allow the use of acetylene gas if the generator is fixed outside the buildings. This should do much to correct the erroneous impressions now existing in many minds.

Presentation to Dr. Schunck.—A special meeting of the members of the Manchester Literary and Philosophical Society was held on Tuesday for the presentation of the Wilde medal for 1898 to Sir Joseph Dalton Hooker, G.C.S.I., F.R.S.; the Dalton medal to Dr. Edward Schunck, F.R.S.; and the Wilde premium (of fifteen guineas) for 1898 to Mr. John Butterworth, F.R.M.S. Mr. J. Cosmo Melvill presided, and there was a large attendance. This, we understand, is the first time the Dalton medal has been presented. The President, in presenting it, said Dr. Schunck might be called the father of the Society. He had been a member for fifty-six years, and had been president four times. He had contributed most important papers on various dyes and colouring matters, and it was for these and the life-long services he had given for the advancement of science that the Council awarded him the Dalton Medal. Dr. Schunck said his labours had been confined to a very small department of chemistry, but a department which was very important. He would like very much if he could to add to these labours, but he was afraid that at his age it was hardly possible to do important work, and no doubt many would say that it was better that we should not attempt it. He had two or three irons in the fire, but whether he would ever take them out he did not know.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols have fallen still lower, 90's now being quoted 1s. 1½d., and 50/90's 1s. 3½d. Carbolic acids keep quiet, but firm in price, without alteration from last quotations. Naphthas are down; crude figures at 7d. bare, and solvent at 1s. 5½d—a decided drop. Anthracene quiet at 5d. for 30% A., and 4¼d. for B. Creosote steady. Pitch firmer at 19s. to 19s. 6d., f.o.b. East Coast.

Sulphate of ammonia is about the same. With the close of the month there has been more business doing, but prices have only just been maintained. Quotations from the North are given as £8. 17s. 6d. to £9. at all ports, although official quotations are:—London outside makes, £8. 17s. 6d., Liverpool £8. 18s. 9d. to £9., Hull £8. 15s., and Leith £8. 17s. 6d., all prompt.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business is tolerably steady in all branches. On the whole, prices continue rather in buyers' favour, but there are no important changes in values during the past week. Caustic soda remains nominally as last quoted, viz.:—F.o.b. Liverpool, 77%, £8. 5s.; 74%, £8; 70%, £7. 7s. 6d.; 60%, £6. 7s. 6d, nett, 10-ton lots. Bleaching powder is in fairly good demand, both for export and home trade. Spot quotations, f.o.r. makers' works, are £5. 2s. 6d. to £5. 5s. per ton; hardwoods, f.o.b. Liverpool, £6. to £6. 2s. 6d. per ton. Ammonia alkali is steady at combination price, viz., £4., bags, f.o.r. Soda crystals and bicarbonate are maintained by same arrangement. Chlorates are weak at 3⅛d. and 3¾d. per lb. for potash and soda respectively. Sulphate of copper very flat at £16. 2s. 6d. to £16. 5s., f.o.b. Sulphur firm at £4. 10s., f.o.r. Saltcake in better inquiry at 19s. to 20s., in bulk, f.o.r. Nitrate of soda unchanged at 7s. 4½d. to 7s. 6d. per cwt. Brown acetate of lime steady at £5. 15s.; grey, £7. 15s. per ton. Acetic acid, 8s. 6d. to 9s. for 40% commercial. White powdered arsenic slow of sale, and spot quotation is £19. 10s. to £19s. 15s. per ton. Yellow prussiate of potash firm at 6½d. per lb. Soda at 5¼d. per lb. Cyanide, 1s. 1d. per lb., and makers are well sold. For sulphocyanides demand is quiet. Carbolic acid crystals are lower. Liquid carbolic without alteration. For aniline oil and salt prices are nominally unchanged. Ammonia salts, generally, are quiet, with an easier tendency. There is fair inquiry for potash, caustic and carbonate, but prices are slightly weaker. Generally, the chemical trade is reported slack in all districts.

REPORT ON MANURE MATERIAL.

A fair business is doing in all departments, but there is no great pressure except in regard to superphosphates, for which the demand is almost more than the available supply.

There is large inquiry for 77/80% Florida Rock for the North Sea, and there would be ready buyers at 6½d. per unit. Sellers, however, require 6⅝d., but this price, so far, has not been paid. For shipment to the U.K. sellers ask 6¼d. per unit. Quotations for South Carolina and Algerian 58/63% are unchanged.

There is more doing in bone meal at £4. 5s. per ton, ex-quay, and at something less for shipment.

Nitrate of soda: There continues a good demand, but supplies being ample the quotation for ordinary quality remains 7s. 4½d., and that for fine quality 7s. 6d. per cwt.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 46s. 3½d.; Middlesbro', 40s. 0½d. cash; and hematite, 49s. 4d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 15s. to £51. cash, and £51. 2s. 6d.. to £51. 7s. 6d. three months. Tin easier. Straits closed at £64. 18s. 9d. to £65. 8s. 9d. cash, and £65. 11s. 3d. to £66. 1s. 3d. three months; Australian, £65. 15s.; English ingots, £67. 15s. Lead steady: Spanish, £12. 13s. 9d. to £12. 15s.; English, £12. 17s. 6d. Silesian spelter, ordinary, £18. 10s. Nickel, 1s. 2½d. Antimony, £32 Quicksilver: First hands, £7. 1s. 3d.; second hands, £7. os 9d. *Copper shares* quiet: Cape, 4¾ to $4\frac{7}{8}$; Copiapo, 2¼ to 2⅜; Libiola, 2⅝ to $2\frac{7}{8}$; Mason and Barry, $3\frac{7}{8}$ to 4⅛; Rio Tinto, $29\frac{3}{16}$ to $29\frac{3}{16}$; Tharsis, 7¼ to 7½.

GLASGOW, Wednesday.—Market firm, and a small business. Scotch done at 46s. 3d., 46s. 3½d. and 46s. 3d. cash; also at 46s. 5½d. month; buyers, 46s. 2½ cash; sellers, 46s. 3d. Cleveland, buyers, 40s. ½d. cash; sellers, 40s. 1½d. Cumberland hematite done at 49s. 4½d. cash, and 49s. 7½d month; buyers, 49s. 4d. cash; sellers, ½d. higher. Middlesbrough hematite, buyers, 51s. 3d. cash; sellers, 51s. 6d.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is quiet, both for spot and forward. There is no change to report in olive, prices and position calling for no further comment. Linseed strong, with Liverpool makes at 17s. to 17s. 6d. per cwt., in export casks. Cottonseed firm, sellers asking 15s. 3d. to 15s. 9d. for Liverpool refined. Castor oil is still quoted 3¼d. to $3\frac{5}{16}$d. for good seconds Calcutta, and 3¾d. for first pressure French, but sales are restricted. Tallow is well held, but the demand is low. Resin is moving satisfactorily at recent full prices for all grades. Spirits of turpentine are rather quieter, and are now quoted at 25s. 3d. per cwt. Petroleum dull, with American 5¼d. to 6½d., and Russian refined 4⅝d per gallon.

CAKES.—Only a moderate demand has been experienced for American Western linseed on the spot, but values are without change at £6. 1s. 3d. to £6. 7s. 6d., whilst Liverpool makes continue to have a moderately fair sale, and holders are steady in their requirements at £8. 2s. 6d. to £8. 10s. per ton, according to brand. Only a moderate trade has been concluded in good to choice brands of American decorticated cottonseed, but the quotation is fairly steady at £5. 5s. to £5. 17s. 6d., according to quality; Liverpool makes are well held for £6. 5s. to £6. 10s. per ton, and meet with a moderate consumptive demand. The demand for undecorticated Liverpool makes continues fair, and the quotation is steadily maintained at £3. 17s 6d to £4. 12s. 6d. Egyptians on spot are quiet but unchanged at £3 18s. 9d. per ton, with only a very moderate inquiry thereat.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 90s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—Linseed oil closes very firm, with advance in price above the rates ruling yesterday of fully 5s. to 7s. 6d. per ton. Cotton oil remains quiet. The principal imports into Hull for the year up to date, as against the same time a year ago have been—Linseed 54,480 qrs., against 121,549 qrs.; rapeseed, 22,770 qrs., against 37,368 qrs.; cottonseed, 75,592 tons, against 65,871 tons; oilcake, 5,084 tons, against 2,372 tons; olive oil, 1,019 tuns, against 958 tuns; tar, 655 barrels against 130 barrels. Large quantities of foreign crude oils are being imported and refined here. Linseed oil firm and quoted 14s 9d. to 14s. 10½d. for spot; delivery, 15s. paid for April, and quoted 15s. 3d. last four months; boiled and refined £1. to £1 10s. per ton extra. Refined cotton oil very quiet, spot; naked, 13s. 3d. spot, forward May/August, 13s. 7½d. per cwt.; filtered refined, £1. to £1. 5s. per ton extra; ordinary casks, £1., and barrels £1. 10s per ton extra. Castor oil extracted here is quoted for first pressure 3⅜d. per lb. for immediate delivery in cases, and 30s. in barrels; second pressure 29s. per cwt., or $3\frac{3}{16}$d. per lb. in cases. Rosins:—For common grades the market is an improving one, with firm market, from 4s. 10½d. to 7s. 3d., according to grade, spot delivery. Olive oil unchanged. Olive oil soap remains a firm market, with very little offering on spot, with prices unaltered. Cod oil, £15. 10s. to £18. per ton. Yorkshire grease, £7. to £9. per ton. Oleines remain firm at advanced rates, quoted from £17. 10s. to £20. 16s. per ton.

CAKES.—The prices all round for feeding stuffs are firm. Linseed cakes steady, 95% pure, £8. 2s. 6d. to £8. 5s. per ton. Oilcakes (linseed), £6. 15s. to £6. 17s. 6d.; Russians, £7. 7s. 6d. to £7. 12s. 6d. Cotton cakes very firm. Best makes, £4. to £4. 1s 3d.; seconds, £3. 17s. 6d. to £3. 18s. 9d. Decorticated cakes, £6. per ton.; meal, £5. 15s.; rape cakes, Black Sea, £4. 3s. 9d. per ton.

PAINTS.—The demand continues an improving one, with prices unchanged. Disinfecting powder, 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. per ton. Black varnish, £5. per ton, barrels, free.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

The Scottish makers of bichromate of potash and bichromate of soda are still in process of being pushed inconveniently to the wall by open

warfare carried on by rival English and continental makers A further concession (the fourth within but a brief space of time) has been wrung from them in the increase of the discount rate from 2½ per cent. to 5 per cent. With regard to sulphate of ammonia, there appears to be some difference of opinion as to the exact tendencies of the market, a few contending that the feeling is a shade more healthy, while others make out that the article is still losing at about the old slow, steady rate. Underneath the figure is pitched at £8. 18s 9d. to £9., f.o.b. Leith, prompt, but some maintain that the real value is not under £9. Sulphate of copper shows itself a shade easier, also nitrate of soda. The rest of the market is not very active either, but former prices are for the most part held.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 7s 6d., 60/62° £6. 7s. 6d., and cream 60/62° £6. all nett, Liverpool: bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s. to 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 4½d. to 7s. 7½d.; sulphate of ammonia, £8. 18s 9d. to £9. prompt, f.o.b. Leith; salammoniac, first and second white, £35 and £33. nett, any port; sulphate of copper, £16. 7s. 6d. to £16. 10s., less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6 15s. Week's imports of sugar at Greenock were 10,193 bags cane unrefined.

TYNE CHEMICAL REPORT.

Tuesday

The chemical trade is still very dull, though there is prospect of better business with the opening of Baltic Ports. Soda crystals are in good demand and price is quoted at £2. 12s. 6d. per ton, gross weight locally. Caustic 76/77% £8. 10s. and £8. 15s. per ton, 70%, £7. 10s. per ton. Bleach quiet at £5. 10s. to £5. 15s. per ton. Sulphur scarce at £5 per ton.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett: silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw. £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett: pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—There is rather less excitement in the market, the extension of the period of notice in South Wales being looked on as some indication that there will be a peaceful settlement of the dispute. The recent storm has had a very serious effect on shipping, the delay of steamers causing many collieries to be idle. To-day's quotations are:—Best Northumbrian steam, 9s. to 9s. 6d. per ton; second qualities 8s. to 8s. 6d. per ton; small steam, 3s. 6d. to 4s. per ton; gas coals, 7s. 9d. to 8s. 6d. per ton; household coals, 10s. to 11s. per ton; coke, 16s. to 20s. per ton.

New Companies.

Bengal Mica Syndicate, Ltd.—Capital £1,500. in £25. shares. This company has been formed to acquire an option for the purchase of certain leases and concessions over about 23,000 acres of mica lands in the district of Hasaribagh, British India.

Davies and Roberts, Ltd.—Capital £6,000. in £1. shares This company has been formed to adopt an agreement with A F. Davies and W. T. Roberts, and to carry on the business of oil, tar, or grease refiners and distillers, and dealers in bye products of oil gas. The subscribers to the memorandum of association are:—Alf. F. Davies, Marshgate Lane, Stratford, manufacturing chemist; Thos. Searl, 45, Chestnut Walk, Walthamstow, clerk; Ernest Milliken, 8, Clifford's Inn, E.C., solicitor; Stephen Musgrave, 65. Navarino-road, Hackney, clerk; Wm. L. Cooper, 5, Queen Victoria-street, E.C., solicitor; F. R. Firmin, 8, Berners-street West, gentleman; Joseph G. Tucker, 6 N, Beckenhall Mansions, Marylebone-road, W., assistant.

Euxine Syndicate, Ltd.—Capital £100,000. in £1. shares. This company has been formed to acquire from S. Coumbary and R. Farkatch an option over certain oil bearing leases and premises in the districts of Anapa and Taman, in Russia, and to acquire, deal in, refine, and turn to account petroleum and other mineral oils and the products thereof. The subscribers to the memorandum of association are: A. J. Hall, Lewes House, Bromley, Kent, solicitor; G Nager, 24, Kensington Crescent, W., clerk; H. E. Bond, Upper Mall Lodge, Hammersmith, accountant; A. P. Hagger, 2, Yarborough, Woodridings, Pinner, accountant; C J. Schmidt, 49, Erpingham-road, Putney, clerk; E. J. Burridge, 106, Fentiman-road, Clapham, clerk; F. Barge, 36, Streathbourne-road, Balham, S W, clerk.

Louis Leakey Aluminium Co., Ltd.—Capital £10,000. in £1. shares (1,000 pref) This company has been formed to adopt an agreement with L. Leakey, and to purchase, import, sell, and deal in aluminium alloys, metallic alloys and compounds, aluminium goods, etc. The subscribers to the memo. of association are: L. Leakey, 127, Farringdon-road, E C.; T. Hedden, 50, Lime-st., E.C.; J. H. Heddon, Lime-st., E.C.; E.W. Jessup, 21, Fairlop-rd., Leytonstone; F. E Barnes, 36, Mark Lane, E.C.; E. Wagler, 62, Leadenhall-street, E.C.; G. H Jones, 2, Ashbourne Grove, E. Dulwich.

Smelting Corporation, Ltd.—Capital £600,000 in £1. shares. This company has been formed to adopt an agreement with the Burnham Syndicate Ltd., for the acquisition of certain patents and rights, and to carry on the business of smelters, workers, founders, smiths, ironmasters, colliery proprietors, etc. The subscribers to the memorandum of association are:—H. E. Fry, 7, Cambrian Place, Swansea, smelter; F. A. Bevan, 54. Lombard-street, E.C., banker; Kinnaird, 1, Pall Mall East, S.W., banker; R. L. Barclay, 54, Lombard-street, E C., banker; H. L. M. Tritton, 54, Lombard-street, E C., banker; E. Burne, 150, Leadenhall-street, E.C., wine merchant; C. Bevan, 54, Lombard-street, E.C, banker. Registered office, 95, Billiter Buildings, E C.

Lancaster Rubber Co., Ltd.—Capital £100,000., in £1. shares. This company has been formed to manufacture, sell, and deal in india-rubber, gutta-percha, indiarubber substitutes, plaster of paris, resin, sulphur, glycerine, beeswax, gum, shellac, asphalt, pitch, lime, gelatine, etc. The subscribers to the memorandum of association are:—R. H. S. Baker, 12, Grove-road, Willesden Green, N.W., solicitor; W. L. Ford, Eversley-street, St. Peter's, Thanet, Kent, student; F. Mansell, 1, Orleston-road, Holloway, N., publisher; A. F. Corbey, 8, Carlton-road, Stroud Green, N., solicitor; F. A. Corbey, 82, Queen's-road, South Hornsey, N., gentleman; Miss B. F. Lock, 85, Digby-road, Brownswood Park, N.; C. Knocker, Easteliff, Broadstairs, gentleman.

Pendleton Rubber Co., Ltd.—Capital £10,000., in £1. shares. This company has been formed to carry on in the United Kingdom and elsewhere the business of indiarubber and gutta-percha manufacturers. The subscribers to the memorandum of association are:—J. Miller, 53, Comely Bank-avenue, Edinburgh, accountant; J. Rough, 36, Almond Bank-terrace, Edinburgh, solicitor; J. Mackie, 13, Leamington-terrace, Edinburgh, writer; J. Robertson, 19, Rankeillor-street, Edinburgh, law clerk; W. Forrester, 42, Hazelbank-terrace, Edinburgh, writer; J. Gillespie, 123, George-street, Edinburgh, bookkeeper; P. Balgarnie, 83, George-street, Edinburgh, merchant. Registered office: 63, Frederick-street, Edinburgh.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM

LONDON.

Week ending March 19th.

Acetic Acid—
Germany, 15 pks. Phillipps & Graves
Holland, 5 Domeier & Co.

Alum—
Holland, 100 pks. Ohlenschlager Brs.

Antimony Ore—
Turkey, 133 t. J. Bamber

Arsenic—
Germany, £30 Butler's Wf., Ld.

Asbestos—
Germany, £40 Craven & Co.
U. States, 200 Deering & Robottom

Barium—
Germany, £25 R. W. Greeff & Co.

Barium Chloride—
Holland, £60 Petri Brs.

Barytes—
Holland, 56 pks. J. Owen
" 112 W. Hardson & Co.

Belgium,	310	J. L. Lyon & Co
,,	89	O'Hara & Hoar
Germany,	50	J. L. Lyon & Co.
Holland,	57	Taylor Brs.
,,	24	O'Hara & Hoar
,,	23	Robertson, Selley & Co.
Belgium,	34	W. Harrison & Co.
Germany,	45	,,

Bleaching Powder—

Germany,	£110	J. M Steel & Co.

Bone Meal—

E. Indies,	926 t.	A. Hunter & Co

Borate of Lime—

Germany,	710 pks.	Carston & Co.

Bromine—

Germany,	50 pks.	A. & M. Zimmermann

Camphor—

Germany	1 pk.	L. & I. D. Jt. Co.

Caoutchouc—

France.	5 c	H. Johnson & Sons
Germany,	4	L. & I. D. Jt. Co.
France,	37	Major & Field
Zanzibar,	5	Hale & Son
Madagascar	36	Kleinwort, Sons & Co.
U. States,	45	Prop. Bull Wf.
Germany,	12	Butler's Wf., Ld.
Aden,	14	Forbes, Forbes & Co
E. Indies,	29	Ralli Brs
Straits,	110	L. & I. D. Jt Co.
,,	73	Gilman Brs. & Co
Sydney	2	Lewis & Peat
Germany,	2	F. R. Muller & Co.

Carbolic Acid—

Germany,	25 pks.	H. Lambert

Castor Oil—

Italy,	5 brls.	A. Laming & Co.

Caustic Potash—

France,	21 pks.	A. C. Hitchcock

Chemicals (*otherwise undescribed*

Germany,	£235	L. & I. D. Jt. Co.
Holland,	200	T H. Lee
Germany,	40	Butler's Wf., Ld.
Holland,	17	A. & M. Zimmermann
Belgium,	11	John Cockerill Line
U. States,	5	Armour & Co.
Holland,	15	J. Barber & Co.
Belgium,	40	T. Palmer
,,	22	Leach & Co.
,,	35	A Boake Roberts & Co.
Germany,	30	R. W. Greeff & Co.
France,	270	Mory & Co.
Belgium,	118	T. H. Lee
Sweden,	10	M. D. Co.
Germany,	72	Craven & Co
,,	64	H. Lambert
,,	270	H. Lorenz
,,	10	Petri Brs.
,,	729	A. & M. Zimmermann
,,	130	Phillipps & Graves
Holland,	30	Hernu, Peron & Co.

Citrate of Lime –

Italy	25 pks.	B. Jacob & Sons

Copper Sulphate—

U. States,	282 pks.	Brandies, Goldschmidt & Co

Cream of Tartar—

Holland,	34 pks.	Kirkpatrick, Barr, & Co.
Portugal,	10	B. & F. Wf. Co
France	10	C F. Gerhardt
,,	5	M. Ashby, Ld.
Spain,	5	F. C Devon & Co.
France,	5	W. C. Bacon & Co.
Spain,	2	B. & F. Wf. Co.

Dyestuffs—

Annatto

Denmark,	2 pks.	M. D. Co.

Argols

France,	84 pks.	B & F. Wf Co.
Italy,	59	Thames S. T. & L. Co., Ld.
,,	475	B Jacob & Sons

Cochineal

Canaries,	19 pks.	Sperling & Williams

Cutch

Rangoon,	100 pks.	L. Sutro & Co.
,,	200	L. & I. D. Jt. Co.
,,	250	R. G Hall & Co.

Divi Divi

E. Indies,	49 pks.	Walker, Munsie & Co.
,,	74	Lewis & Boyes

Extracts

France,	74 pks.	T. H. Lee
Austria,	150	Boutcher, Mortimore & Co
France,	50	Union Ltge. Co.
Austria,	51	M. D. Co

Fustic

B. Honduras,	8 t.	W. Shelcott

Indigo

E. Indies,	5 chts.	F. Huth & Co.
,,	10	Dipnall & Co.
,,	29	E. Bower & Co.
,,	7	Parsons & Keith
,,	8	J. Kenyon & Sons
,,	11	138 pks. J. Owen
France,	1 cs.	Girard Brs & Co.
Belgium,	4	John Cockerill Line
E Indies,	37 chts.	J H. Hall & Wilson
,,	8	Elkan & Co
,,	17	R. Von Glehn & Sons
,,	56	P. Macfadyen & Co.
,,	10	Croysdale & Co
,,	4	1 cs. J. H. Hall & Wilson
,,	171	2 L. & I. D. Jt Co.
,,	5	F. Hartmann
,,	82	W. J. & H. Thompson
,,	12	Ralli Brs.
,,	25	301 pks. J. W. Cook & Co.
,,	26	H Johnson & Sons
Madras,	23	Binny & Co.
Bengal,	205	L. & I. D. Jt Co.
,,	10	S. Smethurst & Sons
,,	34	J. Owen
,,	10	W. France & Co., Ld.
,,	31	A. B. Curtis & Co
E. Indies,	263	,,
Guatemala	1 ble.	C. & E. Morton
,,	3 bls.	W. J & H. Thompson
Bengal.	10 chts.	E. Bower & Co.
,,	3	P. Macfadyen & Co.
Manila.	12	S. Figgis & Co.
E. Indies,	44	J Karpeles & Co.
,,	18	M. Erdmann & Co.
,,	52 cs.	Wrightson & Son

Logwood

B. Hond'as	336 t	W. Shelcott
,,	158	Scrutton & Co.

Madder

Holland,	1 pk.	Colthurst & Harding

Myrabolams

E. Indies,	8 pks	Malcolm Punker

Saffron

Spain,	1 pk.	Richardson, Spence & Co

Shumac

Italy,	1,250 pks.	Bailey & Leetham
,,	25	W France & Co, Ld.

Tanners' Bark

Cape,	27 t.	Flack, Chandler & Co.
Ceylon,	2	Cayzer, Irvine & Co.
Belgium,	40	F. A. Hughes
Cape,	75	J. T. Kennie, Son, & Co.

Farina—

Germany,	100 pks.	R. Bennett & Co
,,	200	J. Barber & Co.
,,	200	Ohlenschlager Brs.
,,	50	R. Bennett & Co.

Glucose—

St. Johns, N.B.,	500 pks.	500 c.	E. Thompson & Co.
U. States,	740	1,560	L. Norman & Co., Ld.
Canada,	500	500	Beresford & Co.
U. States,	250	250	Trier, Meyer & Co.
Holland,	50	50	J. Barber & Co.
U. States,	1,000	1,000	G. Clark & Sons
,,	200	1,200	Deering & Robottom
,,	325	1,696	Ohlenschlager Brs.
,,	200	1,200	W. Grose & Co.
,,	1,425	7,661	R. G. Hall & Co.

Glue—

U. States	£30	Armour & Co.
Germany,	36	J. Barber & Co.
,,	600	Deering & Robottom
Holland,	70	Phillipps & Graves
France,	70	B & F. Wf. Co
,,	38	Flageollet & Co.
,,	19	Mory & Co.
Austria,	150	McDougall & Co.
Germany,	21	H. Lambert
,,	35	Craven & Co
France,	29	Burnett, Brs. & Sons
Austria,	320	J. Greig
Australia,	10	Caignet & Co.
Austria,	560	J. Barber & Co.
Belgium,	770	,,
France,	65	Hernu, Peron & Co.
Germany,	33	Andersen, Becker & Co.
Holland,	14	T. H. Lee

Lamp Black—

U. States,	176 pks.	L. & I. D. Jt. Co.

Lithium Salts—

Germany,	£354	H. Lambert

Manganese Ore—

Germany,	4 t.	H. Honeychurch & Co.

Methyl Alcohol—

Germany,	6 dms.	W. Issard

Mica—

Germany,	£85	W. M. Smith & Sons
E. Indies,	95	,,
,,	1,500	Major & Field
U. States,	74	G. Barker

Molasses—

U. States,	50 brls.	— c.	L. & I. D. Jt. Co.
,,	50	300	R. Johnson & Co.
,,	120	720	R. G. Hall & Co.
,,	500	370	Fellows, Morton, & Co.
,,	500	500	Ohlenschlager Brs.
,,	50	300	L. & Til. Ltge C. & D. Co.
,,	50	300	Page, Son, & East
,,	25	150	L. & I. D. Jt. Co

Nickel Salt—

U. States,	£29	L. & Til. Ltge C. & D. Co.

Ochre—

Holland,	16 pks.	Phillipps & Graves

Phosphate of Lime—

France,	200 t.	W. E. Cole
,,	400	West & Penrose

Phosphate Rock—

France,	200 t.	J. Harrison

Plumbago—

U. States,	29 pks.	Lunham & Moore
Ceylon,	166 brls.	H. J. Perlbach
,,	175	J. Thredder, Son, & Co.
Germany,	5	Butler's Wf., Ltd
,,	80 bgs.	B. Gallaway
,,	37 cks.	,,

Potassium Carbonate—

Holland,	50 c.	Petri Brs
Germany,	546 pks.	Gas Light & Coke Co.
Belgium	8	F. Smith

Potassium Chloride—

Germany,	300 bgs.	F. W. Berk & Co, Ltd

Potassium Oxalate—

Holland,	50 pks.	R. W. Greeff & Co.

Potassium Oxymuriate—

Sweden,	100 pks.	G. Boor & Co

Pumice Stone—

Italy.	5 t	A Laming & Co
,,	2	Tudors, Nash, & Co.
,,	10	J E. Power, Ltd.
,,	1	W. J. Davies & Sons
,,	3	Fellows, Morton, & Co.
Canada,	15	G Knowles & Co.
Italy,	17	T. H. Lee
,,	3	G. S. N. Co.

Pumice Stone (Bricks) —

Germany,	122 t.	J. Cliff & Sons

Pyrites—

Spain,	1,277 t.	Naylor, Benzon, & Co.

Quicksilver—

N. Russia,	3 4 btls.	L. & I. D Jt. Co.

Rosin—

Holland,	3 cks.	J Owen
U. States,	300 brls.	F. & S. Chiesman & Co.

Rosin Oil—

France,	100 pks.	R. Archibald

Saltpetre—

Germany,	50 bgs.	C. Wimble & Co.

Sodium Hyposulphite—

Holland,	£100	R. W. Greeff & Co.

Sodium Prussiate—

Belgium,	73 pks.	Blagden, Waugh & Co.

Starch—

Germany,	140 pks.	Seaward Brs., Ltd.
U. States,	250	Ohlenschlager Brs.
Germany,	1,020	Horne & Co.
,,	200	C. Tennant, Sons & Co.
,,	60	Phillipps & Graves
Belgium,	108	Leach & Co
,,	265	T. H. Lee
Holland,	60	Phillipps & Graves
Belgium,	62	Taylor Brs.
,,	108	Becker & Wagner
Holland,	1,255	Little & Johnston
U. States,	3,328	Bertel Food Co.
,,	499	R. G. Hall & Co.
Belgium,	20	J. Harrison & Co.

Stearine—

U. States,	210 pks.	Beresford & Co.
,,	22 cks.	Wilson & Furness Co.
Belgium,	1	T. H. Lee
,,	444 bgs.	H. Hill & Sons
,,	50	Kumpf & Eckenstein
,,	76	W. H. Mitchell

Sulphur—

Italy,	61 t.	Bailey & Leetham, Ltd.
France,	£25	Girard Brs.
Italy,	15	F. C. Devon & Co.

Sulphuric Acid—

Germany,	47 pks.	H. Lambert

Talc—

France,	£60	Brasch & Rothenstein

Tar—

N. Russia,	112 brls.	Linck Moeller, & Co.

Tar Salts—

Holland,	33 cks.	J. Owen

Tartar—

Italy,	31 pks	B. Jacob & Sons

Tartaric Acid—

Holland,	20 pks.	Kirkpatrick, Barr, & Co.
,,	58	B. & F. Wf. Co.
,,	14	F. Claydon & Co.
Belgium,	21	,,

Ultramarine—

Holland,	1 pk.	W. Harrison & Co.
Belgium,	3	,,
Holland,	20	Thames S. T. & L. Co., Ltd
,,	4	H. Johnson & Sons
,,	9	J. Barber & Co.
,,	15	Phillipps & Graves

Varnish—

U. States,	105 pks.	J. R Francis & Co.
Germany,	20	Phillipps & Graves
Holland,	2	,,
U. States,	22	Lunham & Moore
France,	9	Burnett Brs. & Sons
Belgium	1	T. H. Lee

Verdigris—

France,	1 pk.	Prop. Hay's Wf.

Waste Salt—

Germany,	181 t.	Schofield, White, & Co.

White Lead—

Holland,	11 pks.	A. & M. Zimmermann
Germany,	27	H. B. Alder & Co
,,	20	Perkins & Homer
Holland,	58	Randall Brs.
,,	20	W. A. Rose & Co.
Belgium,	21	H. Wallace & Co
,,	29	J. L Lyon & Co.
Holland,	89	W. Balchin, Ltd.
Belgium,	29	Leach & Co.
,,	46	T. & W. Farmiloe, Ltd.

Wood Pulp—

Sweden,	272 pks.	C. S. Lovell
,,	300	Alsing & Co
Germany,	510	E. J & W. Goldsmith
Canada,	1,250	Becker & Co.
Belgium,	2	T. H. Lee
,,	1,991	P. Heydemann
Sweden	40	H. Johnson & Sons
U. States,	197	Wilson & Furness Co.
Austria,	15	M. Dk. Co.
Belgium,	1,840	W. G. Taylor & Co., Ltd.
Sweden,	167	M. Dk. Co.
Holland,	48	C S. Lovell

Zinc Oxide—

Holland,	500 pks.	Soundy & Sons
,,	50	Prprs. Dowgate Dk.
U. States,	550	M Ashby, Ltd.
Holland,	60	,,

LIVERPOOL.

Week ending March 17th.

Albumen—

Marseilles,	24 cs.	

Aluminium—

New York,	10 bxs.	T. Ashbury

Bone Meal—

Bombay,	4,134 bgs.	
Rangoon,	323	

Borax—

Rouen,	4 cs.	Co-op. W'sale Society, Ld

Caoutchouc—

Havre,	47 cs.	Cunard S. S. Co. Ld.

r Oil—
seilles, 518 brls.
Clay—
n, 2 cks.
Oil—
ohn's Nf'd., 125 cks. C. S. Bowring & Co.
,, 221 Harrington & White
,, 142 Job Bros.
,, 117 Holmwood & Co.
,, 83 J. J. Langley
rs—
burg, 3 brls
en, 109 cks. R. J. Francis & Co
nseed Oil—
rleans, 200 brls.
nnah, 2,000
n of Tartar—
eaux, 34 cks.
tuffs—
gols
na 1 ck.
chineal
Canary, 20 bgs. Canary Islands Trading Co.
, 32 Kennedy & Muir
tch
oon, 1,900 bxs.
vi Divi
e, 175 bgs. Cunard S. S. Co., Ltd
tracts
York, 176 brls.
stic
York, 4,451 pcs. Widow, Duramy & Son
ie, 7 t. Evans & Woodhead
mbier
tu, 37 bgs.
gwood
, 500 t.
Tungsten—
burg, 1 cs.
se—
York, 300 brls. T. M. Duche & Sons
, 410
irk, 120 bgs.
burg, 1 cs.
—
in, 20 bgs N. Johansen & Dahl
York, 6 brls. C. & J. G. Potter
n, 51 cks 70 cs. Co-op. W'sale Society, Ld.
e 12
tone—
erp, 1 cs. J. T. Fletcher & Co.
anese Ore—
2,650 t.
—
York, 20 brls.
ses—
ndria, 1,144 cks.
rleans, 2,000 brls.
—
eilles, 23 brls.
n, 69 cks Co-op. W'sale Society, Ld.
rite—
n, 40 bgs. Tel Man'fg. Co.
—
n, 8 cs
oon, 6 cks.
hate—
t, 1,121 bgs & qty.
erp, 4,579
—
n, 40 pks.
h—
irk, 9 cks
sium Nitrate—
erry, 6 sks W. R. Grace & C.
s—
ra, 4,573 t. Matheson & Co.
—
eston 394 brls.
Sulphide—
Cruz, 11 cs. Elliot's Metal Co
—
en, 1 ck.
mah, 250 brls.
York, 4 cs. 2 bxs. 3 Colgate & Co.

Marseilles 25 Bostock & Co.
,, 36
Rotterdam, 2
Bari, 84
Barcelona, 10 W. Ind. & Pac. S. S. Co.

Soapstone—
Bordeaux, 120 bgs.

Sodium Acetate—
Rouen, 4 cks. Co-op W'sale Society, Ld.

Sodium Nitrate—
Junin, 1,410 t. 4,511 sks.

Starch—
Bremen, 6 bgs.
Baltimore, 100 sks
New York 50 brls. J. Armstrong & Co., Ld.
Antwerp, 80 cs. J. T. Fletcher & Co.
,, 540

Stearine—
Rouen, 13 bgs. Co-op W'sale Society, Ld.
Antwerp, 13 J. T. Fletcher & Co.

Sulphur Oil—
Bari, 10 brls.

Tallow—
Campana, 120 cks.
N. Orleans, 75 tcs.

Tartaric Acid—
Marseilles 4 cks.

Tin Ashes—
Trieste, 38 cks.

Treacle—
New York, 500 brls.
Boston, 1 7

Ultramarine—
Hamburg, 2 cks

Varnish—
New York, 33 brls W. A. Warren
,, 2 S. Brentnall & Co.

Verdigris—
Marseilles, 10 brls. 1 ck.
Bordeaux, 4 cs.

Waste Salt—
Hamburg, 150 bgs.

Wood Pulp—
Halifax, 10 brls. Millin & Co.
Rotterdam, 37 pks.
Boston, 305 rolls
New York, 173 cs Christie & Co.
Gothenburg 41 bls. Cowan & Co.
,, 7 R. R. Lundgren
,, 204

Zinc Ashes—
Stettin, 7 cks.
Philadelphia, 28 brls.

Zinc Oxide—
Marseilles, 40 brls.

Zinc Skimmings—
Boston, 38 brls. Cartledge & Batchelor

Zinc White—
Rotterdam, 35 cks.
Hamburg, 80

MANCHESTER.

Week ending March 19th.

Acetic Acid—
Rotterdam 35 crbys.

Alizarine—
Rotterdam { 57 cks. 1 cs. 44 brls.

Alkali—
Rotterdam, 3 cks.

Ammonia—
Rotterdam. 6 cylrs.

Ammonium Acetate—
Rotterdam, 2 brls.

Aniline Colours—
Rotterdam, 16 brls. 2 bxs.
Hamburg. 62 cks.

Annatto—
Bordeaux, 40 cks. J. & P. Hutchison

Antimony Bifluoride—
Hamburg, 4 cks.

Antimony Salts—
Hamburg, 4 cks.
Rotterdam 6

Barytes—
Antwerp, 150 bgs.
Rotterdam, { 100 11 cks.

Bone Ash—
Paysandu, 600 t. Ravcroft & Pethick

Caustic Potash—
Antwerp 21 dms.

Chemicals *(otherwise undescribed)*
Antwerp, 20 cks
Rouen, 40

Colours—
Boulogne, 2 cks.
Hamburg, 8
Rotterdam, { 41 20 cs. 2 bxs. 97 brls.

Cottonseed Oil—
New York, 25 brls.

Farina—
Hamburg, 1,336 bgs.
Rotterdam. 1,000

Glucose
Newport News, 600 brls.
New York, 50

Glue—
Rouen, { 110 cs. 20 bgs. 7 cks. 54 bls.
Rotterdam, 5
Treport, 37

Indigo—
Rotterdam, 10 chts.

Limestone—
Antwerp, 5 crts. 2 cs.

Litharge—
Rotterdam, 64 cks

Mineral White—
Bordeaux, 100 bgs. G. G. Blackwell, Sons, & Co

Paraffin Scale—
New York, 363 brls.

Phosphorus—
New York, 12 cs

Potash—
Boulogne, 18 cks. 2 dms.
Hamburg, 20
Rotterdam 10
Rouen, 4

Potassium Prussiate—
Hamburg, 2 cks.

Soap—
Hamburg, 1 cs.
New York, 250 brls.

Soda—
Antwerp, 31 brls.

Soda Crystals—
Rouen, 7 cks.

Sodium Acetate—
Treport, 30 cks.

Sodium Nitrate—
Rotterdam, 8 cks.

Sodium Phosphate—
Antwerp, 7 cks

Starch—
Antwerp, 360 cs
Hamburg, { 160 50 brls.
Newport News, 1,200 sks.
New York, 2,201 bgs. 1,100

Tartaric Acid—
Rotterdam, 6 cks

Tin Perchloride—
Antwerp, 15 pks.

Treacle—
Antwerp, 5 tubs

Wood Pulp
Gothenburg, 33 rolls 3,989 bls.
Rotterdam, 15 pks.

Zinc Oxide—
New York, 100 brls.
Antwerp, 70

Zinc Sulphate—
Rotterdam, 4 brls.

Zinc White—
Rotterdam, 1 ck.

HULL.

Week ending March 19th.

Arsenic—
Antwerp, 9 cks. Wilson, Sons, & Co., Ld.

Asbestos—
Hamburg, 8 bls. Bailey & Leetham, Ld.

Barytes—
Antwerp, 33 cks. 400 bgs. Bailey & Leetham, Ld.

Bremen, 100 Storry Smithson, & Co
,, { 200 46 cks.
Rotterdam, 44 Hutchinson & Son
,, 47 W. & C. L. Ringrose
Hamburg, 15 Bailey & Leetham, Ld.

Bone Meal—
Bombay, 2,134 bgs.

Borax—
Bremen, 10 cks.

Chemicals *(otherwise undescribed)*
Hamburg, 16 cks. Wilson, Sons, & Co., Ld.
Bremen, 5 pks. 2 cs. Veltmann & Co.
Dunkirk, 10 cks. 4 dms. Wilson, Sons, & Co., Ld.
Antwerp, { 20 brls. 38 pks. 6 cks. ,,

Colours—
Hamburg, 7 pks. Wilson, Sons, & Co., Ld.
Rotterdam, 4 cs. Hutchinson & Son
,, 37 cks. W. & C. L.
2 bxs. 2 cs. 1 brl. Ringrose
Antwerp, 1 ck. Wilson,
8 pks. Sons, & Co., Ld.

Cottonseed Oil—
New York, 2 brls. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 8 brls. W. & C. L. Ringrose
Indigo
Bremen, 1 bx. Veltmann & Co.
Myrabolams
Bombay, 3,600 bgs.

Farina—
Stettin, 50 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 850 W. & C. L. Ringrose
Amsterdam, 50 Wilson, Sons, & Co., Ld.
Harlingen, 400 bls. Hutchinson & Son

Glucose—
New York, 330 brls.

Glue—
Hamburg, 10 cks. Wilson, Sons, & Co., Ld.
Christiansund, 1 brl ,,
Bremen, 10 bgs. Veltmann & Co.
Dunkirk, 94 cks. Wilson, Sons, & Co., Ld.

Kaolin—
Amsterdam, 20 cks. Hutchinson & Son

Lead Acetate—
Hamburg, 4 cks. Wilson, Sons, & Co., Ld.

Lithopone—
Amsterdam, 4 cks.

Methyl Alcohol—
Bremen, 1 blln. Veltmann & Co.

Phosphate—
Ghent, 150 t. Wilson, Sons, & Co., Ld.
Dunkirk, 1,530 bgs.

Pitch—
Amsterdam, 12 cks. W. & C. L. Ringrose

Potash—
Hamburg, 40 dms.

Salt—
Hamburg, qty.

Saltpetre—
Hamburg, 12 bgs. Wilson, Sons, & Co., Ld.

Soap—
Rotterdam, 8 cs. W. & C. L. Ringrose

Soda—
Ghent, 100 bgs. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 175 cs. Bailey & Leetham, Ld.
Ghent, 198 Wilson, Sons, & Co., Ld.
Bremen, 1,017 Veltmann & Co.

Stearine—
Antwerp, 61 bgs. Wilson, Sons, & Co., Ld.

Tallow—
New York, 190 tcs. Wilson, Sons, & Co., Ld.
Dunkirk, 115 cks. ,,
Tar—
Dunkirk, 28 cks. Wilson, Sons, & Co., Ld.
Tartaric Acid—
Rotterdam, 2 cks. W. & C. L.
4 cs. Ringrose
,, 2 cks. Hutchinson & Son
Treacle—
Boston, 389 brls. Wilson, Sons, & Co., Ld.
New York, 1,500 ,,
Turpentine—
Rotterdam, 240 brls. Hutchinson & Son
Ultramarine—
Rotterdam, 5 cks. Hutchinson & Son
Waste Salt—
Hamburg, 730 bgs.
,, 250 & qty. Bailey & Leetham, Ld.
White Lead—
Amsterdam, 40 cks.
Antwerp, 26 Bailey & Le tham, Ld
Wood Pulp—
Christiania, 1,183 bls. Wilson, Sons, & Co., Ld.
Hango, 93 J. Good & Sons
Zinc White—
Rotterdam, 10 cks. Hutchinson & Son

GLASGOW.

Week ending March 24th.

Acetic Acid—
Rotterdam, 7 cks. J. Rankine & Son
Alumina Sulphate—
Rotterdam, 8 cks. J. Rankine & Son
Barium Sulphate—
Ghent, 470 bgs.
Barytes—
Hamburg, 350 bgs.
Rotterdam, 53 pks. J. Rankine & Son
Bone Meal—
Bombay, 1,067 bgs.
Castor Oil—
Marseilles, 39 brls. 4 cs.
Ghent, 56 cks.
Colours—
Rotterdam 3 bxs. J. Rankine
1 tin. 25 brls. & Son
Cottonseed Oil—
Newport News, 75 brls.
Rotterdam, 50 J Rankine & Son
Dyestuffs—
Alizarine
Rotterdam, 41 brls. J. Rankine
1 bx. & Son
Aniline
Rotterdam, 14 bxs J. Rankine
23 brls. & Son
Aniline Dyes
Ghent, 18 cks.
Cutch
Rangoon, 1,275 bxs. P. Henderson & Co
Myrabolams
Bombay, 667 bgs.
Farina—
Delfszyhl, 1,370 bgs. J. Rankine & Son
Glucose—
Baltimore, 1,050 brls.
Glue—
Hamburg, 6 cks.
New York, 50 brls.
Infusorial Earth—
Hamburg, 173 bgs.
Kainit—
Hamburg, 100 t.
Manganese Acetate—
Hamburg, 1 ck.
Ochre—
Marseilles, 21 brls.
Amsterdam, 1 ck. J. Rankine & Son
Oxalic Acid—
Rotterdam, 9 cks. J. Rankine & Son
Paint—
Marseilles, 55 tins.
Paraffin Scale—
Philadelphia, 350 brls.
Phosphorus—
Baltimore, 5 cs.
Potash—
Antwerp, 3 cks. Crawford & Co.
Rotterdam 64 J. Rankine & Son
Potassium Nitrate—
Hamburg, 50 cks
Saltpetre—
Rotterdam, 1 brl. J. Rankine & Son
Soap—
Baltimore, 401 brls. W. T. Geddes
Newport News, 197
Philadelphia 650 bxs. 25 crts.
Sodium Sulphate—
Ghent, 17 cks.
Starch—
Ghent, 50 bgs. 40 cs.
Rotterdam 40 cs. J. Rankine & Son
Tallow—
Baltimore, 60 tcs.
Treacle—
Philadelphia, 500 brls. Waddell & Bryson
,, 165
Turpentine—
Savannah, 2,731 brls.
Ultramarine—
Rotterdam, 1 ck. J. Rankine
2 cs. & Son
Varnish—
Antwerp, 1 cs. Crawford & Co.
Waste Salt—
Hamburg, 1,678 bgs.
White Lead—
Rotterdam, 50 cks. J. Rankine
18 pks. & Son
Wood Pulp—
Gothenburg, 5,002 bls Henderson, Craig & Co.
Zinc Oxide—
Antwerp. 46 cks. Crawford & Co.
Zinc White—
Rotterdam, 5 cks. J. Rankine
12 pks. & Son

TYNE.

Week ending March 19th.

Alum Earth—
Hamburg, 17 cks Tyne S. S. Co.
Barytes—
Rotterdam, 326 bgs. Tyne S. S. Co.
Colours—
Hamburg, 2 cks. Tyne
1 cs. S. S. Co.
Glucose—
New York, 450 brls. Furness, Withy, & Co.
Limestone—
Antwerp, 1 crte. Tyne S. S. Co.
Manganese—
New York, 134 cks. Furness, Withy, & Co.
Paint—
Hamburg, 50 dms. Tyne S. S. Co.
Paraffin Scale—
New York, 150 brls. C. Hassell
Starch—
New York, 300 bgs. Furness, Withy, & Co.
Rotterdam, 42 cs. Tyne S. S. Co.
Antwerp, 100 ,,
Ultramarine—
Hamburg, 5 cs. Tyne S. S. Co.
Wood Pulp—
Christiania, 765 bls.
Rotterdam, 104 Tyne S. S. Co.

GOOLE.

Week ending March 16th.

Alizarine—
Rotterdam, 81 cks. 1 cs.
Alkali—
Calais, 3 cks.
Antimony—
Boulogne, 6 cks.
Caoutchouc—
Boulogne, 12 cks.
Coal Products *(otherwise undes.)*—
Rotterdam, 88 cks.
Dyestuffs *(otherwise undescribed)*
Boulogne, 85 cks. 1 cs. 80 pks.
Rotterdam, 358 105 1
Farina—
Delfszyhl, 885 bgs.
Hamburg, 330
Glue—
Boulogne, 2 bls.
Madder—
Rotterdam. 8 cks.
Phosphate—
Dunkirk, 800 bgs.
Phosphate of Lime—
Antwerp, 3 brls.
Potash—
Calais, 4 dms.
Rotterdam, 13 cks.
Pyrites—
Huelva, 929 t.
Saltpetre—
Antwerp, 85 bgs.
Hamburg, 22 cks.
Rotterdam, 200 bgs.
Starch—
Ghent, 134 cs.
Waste Salt—
Hamburg, 350 cks.
Wood Pulp—
Rotterdam, 104 bls.

GRIMSBY.

Week ending March 19th.

Caoutchouc—
Antwerp, 2 cs.
Hamburg, 1
Rotterdam, 1
Chemicals *(otherwise undescribed)*
Antwerp, 2 cks. 16 cs. 95 pks.
Hamburg, 12 1 8
Colours—
Antwerp, 1 ck. 57 pks.
Hamburg, 10
Dyestuffs *(otherwise undescribed)*
Hamburg, 6 cks.
Farina—
Hamburg, 70 bgs.
Glue—
Dieppe, 20 cks.
Starch—
Antwerp, 36 pks.
Waste Salt—
Hamburg, 1,000 bgs
Wood Pulp—
Malmo, 82 bls.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 23rd.

Acids—
Pt. Elizabeth, 20 cs. £13
Cape Town, 12 9 pks. 45
Victoria, B.C., 10 kgs. 13
Alkali—
Boston, 3 c. £19
Hamburg, 1 t. 9
Melbourne, 6 11
New York, 7 15 125
Alum—
Pt. Elizabeth, 50 kgs. £12
Ammonia—
Cologne, 29 dms. £202
Cape Town, 18 cs. 27
Delagoa Bay, 10 13
Ammonium Carbonate—
Pt. Elizabeth, 4 cs. £10
B. Ayres, 1 t. 29
Valparaiso, 1 13 c. 40
Odessa, 4 cks. 260 kgs. 368
Ammonium Chloride—
Sydney, 1 t. £20
Dusseldorf, 4 2 c. 89
Varna, 12 17
Salonica, 2 2 61
Bordeaux, 20 7 200
Dunkirk, 20 7 200
Ammonium Sulphate—
Hobart, 10 t. £102
Ghent, 130 1,220
Hamburg, 80 720
Madeira, 10 5 c. 110
Ostend, 80 720
Barbadoes, 578 bgs. 512
Antwerp, 115 1,100
Arsenic—
Malta, 10 c. £18
Barium Binoxide—
Paris, 5 t. 7 c. £180
Bleaching Powder—
Cape Town, 12 c. £7
Boracic Acid—
Amsterdam, 6 cks. £39
Wellington, 20 kgs. 26
Borax—
Cologne, 4 t. 10 c. £67
Brussels, 1 2 42
Carbolic Acid—
E. London, 10 dms. £8
New York, 10 cks. 23
Trinidad, 15 12
Newport News, 120 946
Pt. Elizabeth, 30 3 cs. 41
Sydney, 20 7
Caustic Soda—
Pt. Elizabeth, 7 t. 18 c £161
Hong Kong, 3 5
Cape Town, 5 7
Auckland, 20 11 223
E. London, 1 5 27
Chemicals *(otherwise undescribed)*
B. Ayres, 41 cs. £431
Antwerp, 4 cks. 40
Hamburg, 4 1 120
Treport, 20 9
Dunkirk, 36
Amsterdam, 1
E. London, 4
Pt. Elizabeth, 53
Antigua, 4
Cologne, 4 kgs.
Gothenburg, 30
Christiania, 2
Malaga, 6
Mauritius, 10 2
Brussels, 1
Adelaide, 20 dms.
Sydney, 4 31 pks.
Melbourne, 3 134
Perth, 17 116
Brisbane, 40
St. John's, N.B., 27
Valparaiso, 10
Shanghai, 2 14
Paris, 1
Trinidad, 4
Citric Acid—
Libau, 10 kgs.
Durban, 3 c.

Hamburg,		10			55
Calcutta,		1 cs.			5
Delagoa Bay,		3			13
Hiogo,	1				6
Coal Products—					
Alizarine					
Boston,	50 cks.				£570
Aniline					
Dunedin,		2 cs.			£49
Boulogne,	1 ck.				9
Aniline Oil					
Genoa,	10 dms.				£300
Anthracene					
Rotterdam,	438 cks.				£1 879
Benzine					
Hong Kong,	10 cs.				£38
Benzol					
Rotterdam,	30 cks.	22 dms. 40 puns.			£867
Treport,	31				85
Creosote					
New York,	451 cks.				£339
Naphtha					
Wellington,	10 dms.				£5
Naphthaline					
New York,	132 cks.				£115
Paris,	43	100 bgs.			136
Rotterdam,		100			50
Cologne,	20				179
Hamburg,	28	100			77
Pitch					
Boston,		100 cks.			£60
Dunkirk,	700 t.				965
Kustendjie,			15 brls.		4
Cologne,			62		133
New York,		200			73
Hochfeld,					160
Alexandria,			200		65
Aviles,	727				760
Halifax,		200			45
Galatz,			25		6
Ibrail,			25		
Antwerp,	2,271				2,625
St. Malo,	230				230
Pyridine					
Rotterdam,	10 cks.				£115
Tar					
Quilimane,		15 brls.			£15
Kustendjie,		25			14
Pt. Elizabeth,	800 t.				53
Danzig,		98			38
Hong Kong,		10			8
Malmo,	100 cks.				50
Trinidad,			10 rnlts.		6
Vera Cruz,	100				62
E. London,			500 dms.		10
Galatz,		25			13
Ibrail,		50			
Toluol					
New York,	5 cks.				£105
Coal Products (*otherwise undes.*)—					
Boston,	2 cks.				£16
Copper Sulphate—					
Bordeaux,	42 t.	10 c.			£719
Delagoa Bay,		5			5
Cape Town,	1				17
Rotterdam,	50				800
Paris,	5				80
Naples,	45				760
Leghorn,	20				398
Corrosive Sublimate—					
Bombay,	1 t.	4 c.			£240
Madras,		12			106
Cream of Tartar—					
Launceston,		15 c.			£58
Napier,		3			12
Disinfectants—					
Fremantle,		82 pks.			£56
New York,			12 brls.		42
Bombay,		64			22
Calcutta,	25 cks.				175
Colombo,	2				14
E. London,			50 cs.		64
Pt. Elizabeth,			10		64
Melbourne,			20		51
Hong Kong,		114			59
Paris,	10				15
Lime—					
Grenada,	25 pks.				£17
Lithium Carbonate—					
Paris,	2 cs.				£226
Manure—					
Durban,	4 t.	12 c.			£110
Treport,	15				58
Sydney,	5				13
Havre,	1	8			40
Jersey,	26				76
Rouen,	35				100
New York,	5				44
Madeira,	10	5			35
Oxalic Acid—					
Madras,	10 kgs.				£18
Phosphate—					
New York,	33 t.				£284
Phosphorus—					
Rio de Janeiro,		2 c.			£26
Otago,	1 cs.				10
Potash—					
Danzig,		10 c.			£20
Hobart,	10				86
Auckland,		12			10
Potassium Bichromate—					
Barcelona,	2 t.	3 c.			£80
Potassium Chlorate—					
Otago,	6 kgs.				£10
Bombay,		10 c.			15
E. London,	20				23
Potassium Cyanide—					
Normanton,	1 t.				£121
Pt. Darwin,	1	8 c.			150
Rio de Janeiro,	2				179
Calcutta,		4			23
Melbourne,			50 cs.		280
Fremantle,	56	14			765
Townsville,	29	13	57		3,752
Saltpetre—					
Ghent,	1 t.	19 c.			£37
Pt. Elizabeth,		11			12
Sydney,	2				42
Bahia,	6	1			124
Santos,	8	17			182
Valencia,	2	4			40
Rio de Janeiro,	8	11			175
Sheep Dip—					
Sydney,	5 dms.				£5
New York,			1 cs.		5
Cape Town,		12 c.			14
San Francisco,	4 t.	15			150
Calcutta,			100		62
Durban,			10		55
B. Ayres,	5	2			175
Soda—					
Cape Town,	1 t.	6 c.			£8
Pt. Elizabeth,	4	9			12
Pt. Said,	1				5
Soda Crystals—					
Cape Town,	4 t.	10 c.			£14
Gibraltar,	2	9			7
Pt. Elizabeth,	11	1			33
Sodium Bicarbonate—					
Calcutta,	1 t.				£7
Pt. Elizabeth,	3	5 c.			31
New York,		10			15
Sodium Carbonate—					
Auckland,		3 c.			£6
Sodium Nitrate—					
Grenada	2 t.				£17
Sodium Silicate—					
Auckland,	3 t.	10 c.			£24
Sodium Sulphate—					
Ghent,	130 t.				£210
Sulphite of Lime—					
New York,	1 t.	7 c.			£130
Sulphur—					
Durban,	1 t.	7 c.			£39
Pt. Elizabeth,		150 cs.	375 kgs.		179
Barbadoes	25				125
E. London,	1	7	100		42
Sulphuric Acid—					
E. London,		20 cs.			£14
St. Lucia,	4 cks.				17
Cape Town,	2 t.	5 c.			20
Penang,	3				15
Tartaric Acid—					
Hiogo,		5 c.			£29
Valencia,		5			29
Yokohama,	1 t.	1			218
Bombay,	15 cs.				64
Lyttelton,		5			28

LIVERPOOL.

Week ending March 23rd.

Acetic Acid—					
Vera Cruz,	1 t.	11 c.	3 q.		£28
Alkali—					
Santander,	10 t.	13 c.			£40
Boston,	5	4			40
Alum—					
Madras	1 t.	4 c.	1 q		£6
Yokohama,		16	3		4
Bourgas,	1	1			5
Genoa,	1	1	3		5
Varna,	11	19	3		58
Yolo,	3				14
Calcutta,	12	1	1		36
Algoa Bay,		5			1
San Francisco,	20				100
Smyrna,	3	12			19
Lisbon,	10	5	2		51
Hamburg,	1	4			6
New York,		17			4
Salonica,	1	7			7
Alumina—					
Vera Cruz		7 c.	2 q.		£3
Aluminous Cake—					
Calcutta,	25 t.	9 c.	3 q.		£121
Melbourne,	6	5	2		19
Ammonia—					
Colombo,		6 c.			£22
Ammonium Carbonate—					
Genoa,	2 t.	10 c.			£70
Copenhagen,		19	2 q.		17
Lisbon,			6 cks.		18
Rotterdam,		4			6
Rouen,	1				26
Ammonium Chloride—					
Galatz,		7 c.			£11
Colon,		5			6
Trieste,	1 t.				31
Montreal,	2	1			36
Piræus,		6			10
Copenhagen,	2	5			14
Bilbao,	1	14			56
Braila,		9			15
Vera Cruz,		5	2 q.		8
Ammonium Sulphate—					
Cullera,	30 t.	9 c.			£290
Candia,	45	1	3 q.		400
Genoa,	496 bgs.				490
Demerara,	24 t.	18	3		273
Philadelphia,	51				470
San Francisco,	101	10			1,136
New York,	25				230
Gd. Canary,	44	16	1		445
Honolulu,	101				934
Santa Cruz,	22	18			212
Las Palmas,	65				613
Valencia,	324	13	1		3,017
Arsenic—					
Rouen,	1 t.	3 c.			£30
Barium Chloride—					
Rotterdam,		5 c.			£16
Bleaching Powder—					
Boston,	303 cks.				
B. Ayres,		8 cs.			
Calcutta,		60			
Corfu	20				
Fredrickton N.B.,	2				
Genoa,	91				
Havana,		20 brls.			
Leghorn,	80				
Maranham,		15			
New York,	248	25	20 bxs.		
Oporto,	30				
St. John's, N.B.,	13 t.	8 c.			
Bone Ash—					
Marseilles,	10 t.	9 c.	3 q		£160
Boracic Acid—					
Hamburg,	6 t.	2 c.	3 q.		£153
Trieste,	1 ck.				7
Borax—					
Piræus,		11 c.			£16
Ibrail,	1 t.	10			23
Genoa,	3	5			53
Portland, M.,	11	4			169
New York,		16	3 q.		12
Bremen,	9				130
Trieste,	10 cks.				14
Hamburg,	8 t.	8			126
Ancona,		10			8
Vera Cruz,	2	3	1		30
Alexandria,	1				14
E. London		5			4
Calcium Chloride—					
New York,	38 t.	12 c.	2 q.		£85
Colombo,	3				7
Rouen,	10				22
Carbolic Acid—					
Baltimore,	5 t.	12 c.			£143
Trieste,			10 cks.		33
New York,		14	1 q.		28
Hamburg,	1	6			87
Los Angelos,		19			70
Reval,	1	4			72
Barcelona,	1				65
Rouen,	10	8			368
Odessa,	2	1	1		152
Caustic Potash—					
New York,	1 t.	1 c.			£26
Cape Town,	1				26
Caustic Soda—					
Antwerp,	30 dms.				
Bahia.	40				
Barcelona,		120 cks.			
Bari,	18				
Batavia,	7				
Bordeaux,	32				
Boston,	202				
Bowega,	2				
Brisbane,	52				
B Ayres,	100				
Calcutta,	20				
Callao,	40				
Cape Town,		7 cs.			
Fairwater,	10				
Fiume,	18				
Genoa,	321				
Half Jack,	70				
Hamburg,		20 kgs.			
Havana,	60				
Hiogo,	18				
Konigsberg,	30				
Leghorn,	35				
Limassol,	10				
Malaga,		20 pks.			
Malta,	20				
Manaos,	12				
Manila,	100				
Melbourne,	32				
Mollendo,	40				
Monmouth,	50				
M. Video,	100				
New York,	100	20 bxs.			
St. Stephen,	50				
Salaverry,	12				
San Francisco,	100				
Savanilla,	20				
Seville,	50				
Sfax,	30				
Trieste,	15				
Trinidad,	18				
Valencia,	6				
Vera Cruz,	135				
Vigo,	15				
Chemicals (*otherwise undescribed*)					
Bordeaux,	3 cks.				£7
Barcelona,		1 c.	3 q.		26
St. John's,	2 t.	1	1		11
Hamburg,	1				34
Philadelphia,	13	9			404
China Clay—					
Baltimore,	220 cks.				
Bombay,	200				
Boston,	1,765	250 bgs.			
Calcutta,	140				
Philadelphia,	300				
Pernambuco,	30				
Portland,	492				
Seville,		50			
Chrome Alum —					
Lisbon	5 cks.				£16
Chromium Trioxide—					
Antwerp,		4 c.			£12
Citric Acid—					
Singapore,		1 c.			£5
Rangoon,		1	2 q.		
Coal Products—					
Aniline					
Boston,	40 cs.				
Aniline Colours					
New York,	10 cks.		19 kgs.		
Aniline Salts					
Madras,	5 brls.				
New York,	20 cks.	6 kgs.	1 cs.		
Creosote Oil					
Bordeaux	300 kgs.				
Naphthaline					
New York,	10 cks.				
Naphthol Colours					
New York,	11 cks.				
Pitch					
Cette,	1,683 t				
Rotterdam,	25 brls.				
Tar					
Gaboon,	50 brls.				
Hamburg,	158				
Honolulu,	200				
Sherbro,		20 kgs.			
Sulina,	50				
Copper Sulphate—					
Fiume,	19 t.	8 c.			£324
Palermo,	2	11			41
Beyrout,		5			4
Gothenburg,	2	13	3 q		44
Braila,	1				19
Barletta.	2	8			41
M. Video,	7	5			113
Libau,	2	6	3		37
Paris,	35	9			566
Rio de Janeiro,	6		2		96
Bourgas,		10			8
Vigo,	10	1			151
Valparaiso,	15				249
Batoum,	60		2		1,016
Basle,	11				180
Rouen,	28	15	3		455
Bordeaux,	852	9	1		13,753
Ancona,	227	15	1		3,675
Cette,	171	3	2		3,077
Lisbon,	185	14			2,933
Bari,	220	11			3,488
Leghorn,	148	12	1		2,317
Messina,	4	1			64
Genoa,	145	10			2,299
Oporto,	24	4	2		356
Trieste,	45	3			969
Naples,	14	13	3		235
Venice,	344	1	1		5 784

Catania,	4	2	3	68
Cape Town,		5		4
Nantes,	124	10	1	2,018
Rotterdam,	10	1	3	163
Brindisi,	111	9	2	1,786

Copperas—

Hamburg,	10 c.		£1
Cape Town,	4 t.		11
Volo	4	14	9
Candia,	2	8	5
Talcahuano,	11	9	24

Disinfectants—

Rangoon,	1 t.	18 c.	£70

Dried Blood—

Dunkirk,	60 t.	15 c	£410

Dyestuffs (*otherwise unnescribed*)

Vera Cruz,	11 c	3 q.	£15

Guano

Valencia,	197 t.	£1,448

Iron Liquor—

Vera Cruz	1 t.	5 c.	2 q.	£7

Lead Acetate—

St. John's, N.B.,	1 t.	3 q.	£19

Magnesia—

Beyrout,	2 cs.		
Philadelphia,	35		
Rosario,		6 c.	£18

Magnesium Carbonate—

Rouen,	1 t.	7 c.	£23

Magnesium Chloride—

Genoa,	7 t.	10 c.	£18
Rouen,	10	6	24

Manure—

Cherbourg,	2 t.	12 c.	2 q.	£110
Bordeaux	2	9		10

Oxalic Acid—

Boston,	18 t.	5 c.	£500

Paint—

Antwerp,	20cks	20 dms.	
Arica,			qty.
Asencion,			4 kgs
Bari	12		
Beyrout,		17 pks.	
Bonny,		4 dms.	
B. Ayres,	14		
Cadiz,			75
Calcutta,			401
Callao,	19		
Campeche,	2		
Cape Town,		4 pks.	
Coquimbo,		5	
Galata,			100
Gibraltar,		8 dms.	3
Hamburg,		35 pks.	
Havana,	1		
Jamaica,		113	
Lagos,			80
Limon,			10 cs.
Loanda,	3		
Manaos,		92	
Manila,	18		
Opobo,		20 dms.	
Panama,	23		
Pt. Natal,			1
Pt. Said,			27 kgs.
Punta Arenas,			124
St. Domingo,	20		
Sierra Leone,	6		
Talcahuano,	10		5 cs.
Trieste,	12		
Valparaiso,		63 pks	45 kgs.
Vera Cruz,			93
Yloilo,			250

Painters' Colours—

Alexandria,		241 pks.	
Algoa Bay,		20 cs.	10 kgs.
Baltimore	100cks	267 pks.	
Barbadoes,	1		60
Hamburg,	10		
New York,	2		
Old Calabar,		12	
Para,	20brls.	23	
Pt. Natal,		40	
St. John's, N'fld,		5	1
Salaverry,		4	
Santos,			10
Valparaiso,		12 cs	

Paraffin Wax—

Fiume,		10 cs.	
Naples,	300 bgs.		
Piræus,		10	
Reval,		20	
Rio de Janeiro,		6	
Smyrna,	10		
Venice,	25		

Phosphorus—

Hong Kong,		3 c.		£83
Shanghai,		18		145
Vera Cruz		2		20
Celaya,		2		20
Mexico,		10		100
Hiogo,	5 t.	13	2 q.	1,144

Picric Acid—

Rangoon,		8 c.	£30

Potash Salts—

Guaymas,	18 t.	9 c.	2 q.	£680

Potassium Bichromate—

Hong Kong,		5 c.	£13
Waterloo, Ont.,	1 t.	1	37
Rouen,	16		530
San Sebastian,	4	2	144

Potassium Carbonate—

New York,	14 t.	10 c.	£272

Potassium Chlorate—

Vera Cruz,	3 t.	10 c.	£107
Copenhagen,	1	10	56
Hiogo,	13	14	388
Yokohama,	7	5	230
Shanghai,	2	5	68
Philadelphia,	13	15	408
Genoa,		7	10
Malta,		2	3
New York,	19	12	572
Hamburg,	6		197

Potassium Prussiate—

Vera Cruz,	2 t.		£110
Genoa,	5 cks.		84

Rosalic Acid—

New York,		9 c.	£76

Salt—

Algoa Bay,	10 t.	7 c.	
Amsterdam,	110		
Anamaboe,	10	12	
Antwerp,	65		
Appam,	7	10	
Baltimore,	421		
Bayin,	8	15	
Boston,	50		
B. Ayres,	90	9	
Calcutta,	1,150		
Cameroons,	141	7	
C. C Castle,	150 bgs.		
Carleton, N.B.,	68 t.	7	
Conakry,	20		
Dunedin,	15		
E. London	53	10	
Ghent,	100		
Gibraltar,	1	16	
Lagos,	100		
Manila,		8	
Matadi,	2	5	
Melbourne,	81		
Mossel Bay,	55		
Monrovia,	12	10	
N. Orleans,	150		
New York,	75		
Opobo,	50		
Port Antonio,		100 cs.	
Portland, Me.,	143	11 c.	
Rangoon,	2,368		
Rotterdam	100		
St. John's, N'fd,	10		
Salt Pond,	16	5	
Savannah,	544		
Sherbro,	60		
Sydney,	400		
Winnebah,	9	7	

Salt Cake—

Delagoa Bay,	10 t.	6 c.	£26

Saltpetre—

Yarmouth, N.S.,		9 c.	£12
Maranham,		6	6

Satinite

Calcutta,	3 t.	15 c.	£11

Sheep Dip—

Sydney,	5 t.	11 c.	1 q.	£120
Cape Town,	2	14	3	40
M. Video,	3	11	2	88
E. London,	2	16	1	42
Belize,	1 kg.	2	3	11

Soap—

Addah,	120 bxs.		
Aden,			50 bdls.
Akassa,	65		
Alexandria,	77		
Algoa Bay	1,250	17 cs.	
Anamaboe,	50		
Antwerp,	21	280	
Appam,	133		
Assinee,	25		
Bangkok,	100		
Barbadoes,	1,050		
Batavia,	8 o		
Bathurst,	101		
Bayin,	50		
Belize,	900		
Bermuda,	100		
Bluefields,	100		
Bombay,	775		
B. Ayres,		2	
Buguma,	600		
Calcutta,		30	250
Cameroons,	220		
C. C. Castle,	150		
Cape Town,	1,250	20	
Constantinople,			1 pk.
Coquimbo,			2
Delagoa Bay,	675	35	
E. London,	100	75	
Gibraltar,	250		
Greytown,	1,100		
Johannesburg,		250	
Karachi,	250	202	
Lagos,	565		
Madras,		11	22
Manaos,	300		
Matadi,	164		
M. Video,		3	
Montreal,		500	
Mossel Bay,		5	
New York,			2 cks.
Para,	200		67 bdls.
Philadelphia,	100		
Pt. Elizabeth,	600		
Pt. Natal,	1,250	4	10
Pt. Said,		26	
Puerto Cortes,	50		
Punta Gorda,	125		
Rangoon,	500		
Rawal Pindi,		12	
Rio Del Rey,	112		
Rotterdam,		510	
St. Domingo,	10		
St. John's, N'fd.,	488		
St. Kitts,	300		
St. Thomas,	500		
Samarang,		2	
Sapeli,	100		
Savannah,	100		
Singapore,	250		
Smyrna,		7	
Sourabaya,		25	
Stamboul,	85		
Surinam,	150		
Tangiers,	30		
Toronto,		1,500	
Trinidad,	150		
Valparaiso,		1	
Varna,		20	
Warri,	100		
Zanzibar,			125

Soda Alkali—

Leghorn,			20 cks.
New York,		35 brls.	

Soda Ash—

Adelaide,			42 cks.
Amsterdam,	10 bgs.		5
Boston,		26 tcs.	28
B. Ayres,		100 brls.	103
Calcutta,			167
Cape Town,	200 dms.		27
Christiania,			330 pks.
Colombo,			65 cks.
Copenhagen,	200 bgs.		
Delftshaven,	1,150		
Fairwater,	900		289
Genoa,	1,351		
Ghent,	734		
Halifax,			10
Hiogo,		417	
Lagos,	25 kgs.		
Libau,	80 bgs.		
Madras,	10		
Maranham,		30	
Melbourne,			205
Mitylene,	100		
Newfairwater,	400		
N. Orleans,	1,640		
New York,		31 tcs.	50
Philadelphia,	1,800	33	
Seville,	110		
Sydney,			67
Valparaiso,			110
Vizagapatam,			264

Soda Crystals—

Calcutta,		15 brls.	
Leghorn,		10	
Malta,		20	
Marseilles,	44 kgs.		
New York,			364 cks
St. Domingo,		50	
Valparaiso,		10	25 dms.

Sodium Arseniate—

Bombay,		3 cks.
Boston,		5

Sodium Bicarbonate—

Adelaide,	20 kgs.		
Ancona,	25		
Bari,	94		
Bilbao,	7		
Bombay,	100		
Bourgas,	60		
Braila,	31		
Calcutta,	750		
Cape Town,	10 bgs. 20 kgs.		
Colombo,	15		4 cks.
Constantinople,	90		
Dedagatch,			5
Dunkirk,		84 pks.	
Galatz,	67		
Genoa,	305	54	37
Kobe,	200		
Leghorn,	45		4
Malaga,	50		
Melbourne,	713		
Naples,	50		
Odessa,	485		
Oporto,	20		
Para,			5
Passages,	70		
Pernambuco,	25		
Pt. Said,			1
Rotterdam,	95		
St. Stephen,	100		
San Sebastian,	10		
Stettin,		29	
Sydney,	350		
Valencia,			10
Valparaiso,	100		
Venice,	210		

Sodium Bichromate—

Bombay,	4 cks.	
Portland, Me.,	6	

Sodium Carbonate—

Boston,		36 brls.
Rotterdam,		50

Sodium Prussiate—

Barcelona,	18 cks.	

Sodium Silicate—

Bilbao,		75 brls.

Sodium Sulphate—

Rotterdam,	218 bgs.	

Strontia—

New York,	2 t.	

Sulphur—

Yarmouth, N.S.,		11 c.	
St. Jerome,	40 t.	1	
Ghent,	11		

Sulphuric Acid—

Kingston,	1 t.	3 c.	

Superphosphates—

Cherbourg,	375 t.	7 c.		
Bordeaux,	50	4	3 q.	
Trinidad,	100			
Nantes,	164	3	1	
Gd. Canary,	5			
San Sebastian,	19	13		
Cape Town,	50			
Corunna,	300			
Rochefort,	250			

Varnish—

Barcelona,	1 brl.	
Bilbao,	6	
Cadiz,	12 cs.	
Nassau,	5 cks.	
Old Calabar,		2 dms.
Rotterdam,	2	
Sekondi,	2	
Sierra Leone,	2	
Valparaiso,		20

White Lead—

Piræus,	3 cks.	
St. Kitts,	3	
St Lucia,	7	

Zinc Chloride—

Karachi,	10 cks.	

MANCHESTER

Week ending March 23rd.

Aniline Colours—

Holland,	5 kgs.	

Aniline Oil—

Belgium,		5 dms
Germany,		1

Aniline Salts—

Germany,	2 pns.	

Anthracene—

Germany,	24 cks.	

Bone Black—

Belgium,	60 bgs.	

Carbolic Acid—

Halifax, N.S.,		8 cs.	
France,	5 cks.		71 btls

Chemicals (*otherwise unescri*

Hamburg,	15 cks.	

Glue—

France,	2 cks.	
Germany,	24	

Oxalic Acid—

Bushire,		4 cs.

Paint—

Bagdad,	2 cks.	

Paraffin Wax—

Hamburg,		10 cs.

Pitch—

Belgium,	1,486 c.	
Cette,	2,898	

Potassium Bichromate—
Bushire, 8 cs.
Rosin—
Bombay, 100 brls.
Soap—
St. John's N.B., 70 bxs.
Sodium Arseniate—
Belgium, 3 cks.
France, 4
Tallow—
Bombay, 46 brls.
Tar Colours—
Germany, 1 cs.
Varnish—
Bombay, 15 dms.
Whiting—
Bombay, 7 cks.
Zinc Chloride—
Bombay, 3 brls.

HULL.

Week ending March 19th.

Alkali—
Antwerp, 8 pks.
Christiania, 1 ck.
Hango, 3
Ammonium Sulphate—
Dunkirk, 300 bgs.
Genoa, 400
Ghent, 105
Stettin, 244
Benzol—
Rotterdam, 73 cks.
Bleaching Powder—
Odessa, 17 cks.
Stettin, 51
Borax—
Hango, 1 ck.
Carbolic Acid—
Amsterdam, 72 brls.
Chemicals (*otherwise undescribed*)
Bremen, 20 cks.
Christiania, 9 1 cs. 45 kgs.
Copenhagen 10
Danzig, 10
Genoa, 25 20
Gothenburg, 30
Hango, 1 50
Hamburg, 10 145
Leghorn, 11
Odessa, 60 7
Reval, 2 10 150 pks.
Rotterdam, 32
Rouen, 5
Stettin, 4
Cottonseed Oil—
Amsterdam, 1,558 c.
Antwerp, 1,566
Bremen, 17
Christiania, 41
Dunkirk, 918
Gothenburg, 153
Hamburg, 2 513
Konigsberg, 100
Leghorn, 120
Marseilles, 1,101
Rotterdam, 1,075
Stettin, 181
Dyestuffs (*otherwise undescribed*)
Christiania, 25 bgs.
Danzig, 2 dms
Rotterdam, 39 cks.
Guano—
Dunkirk, 1,000 sks.
Linseed Oil—
Amsterdam, 205 c.
Christiania 88
Christiansand, 52
Copenhagen, 35
Drontheim, 53
Genoa, 46
Hamburg, 108
Manure—
Copenhagen, 1,020 bgs.
Paint—
Christiansand, 60 kgs.
Genoa, 617 / 1 ck 5 cs.
Painters' Colours—
Amsterdam, 12 cks.
Antwerp, 186 21 dms. 60 pks.
Bremen, 1 cs.
Bergen, 1 1
Christiania, 5 4
Copenhagen, 4 22 dms. 6 pks.
Ghent, 2 1
Gothenburg, 2
Hamburg, 25 2
Harlingen, 8
Marseilles, 3 1
Odessa, 20
Rotterdam, 5 1
Rouen, 6
Stavanger, 2 dms.
Stettin, 45
Soap—
Amsterdam, 110 cs.
Antwerp, 100
Gothenburg, 1
Starch—
Hamburg, 3 cs.
Rouen, 1
Sulphur—
Stettin, 500 bgs.
Tallow—
Amsterdam, 63 cks.
Gothenburg, 3
Tar—
Amsterdam, 61 brls.
Copenhagen, 25 cks.
Danzig, 3 4 bls.
Hamburg, 22
Rotterdam, 4
Rouen, 4
Turpentine—
Genoa, 2 bls. 6 dms.
Varnish—
Amsterdam, 1 cs.
Antwerp, 7 1 dm.
Genoa, 2 9
Ghent, 1 ck.
Gothenburg, 1
Rotterdam, 9

GLASGOW.

Week ending March 24th.

Alum—
New Brunswick, £58
Ammonium Carbonate—
Christiania, £21
Drontheim, 15 c.
Ammonium Chloride—
Italy, £61
Christiania, 12
Ammonium Sulphate—
Barcelona, 80 t. 10½ c.
Hamburg, 25 7
Valencia, ½
Bisulphite of Lime—
Ootacamund, 1 t. 8¾ c.
Bleaching Powder—
Calcutta, qty.
Victoria, Aus., 15 t. ¾ c.
Borax—
Christiania. £7
Caustic Soda—
Seville. 5 t. 11½ c.
Coal Products—
Creosote
Christiania, £30
Naphtha
St. Nazaire, 6 t.
Pitch
Hamburg, 29 t. 19 c.
Antwerp, £91
Venice, £1,561 17s.
Danzig. 313
Tar
U.S.A. £114
Drontheim, 5 t. 16 c.
New York, 100 brls.
Bombay, 26
Calcutta, 320
Colombo, 42
Delagoa Bay, £22 18s.
Tar Oil
Hamburg, 12 c.
Tar and Pitch
Karachi, £40 10s.
Madras. £74
Coal Products (*otherwise undes.*)—
Christiania, £16
Dyestuffs (*otherwise undescribed*)
Calcutta, £33
Extracts—
Victoria, Aus., £83 14s
Gelatine—
U.S.A., £209
Glucose—
Cape Town, 2 t. 17 c.
Lead Acetate—
Bombay. £88
Linseed Oil—
Adelaide, 1 t. 17¼ c.
Christiania, 10
Logwood—
Melbourne, £39
Magnesium Sulphate—
Joadhpur, qty.
Manganese—
Basle, £105
Rotterdam, 45
Manure—
Valencia, 34 t. 11¾ c.
Paint—
Havana, £60
New York, 58
Colombo, 106
St. Nazaire, 4 t.
Painters' Colours—
E. London. qty.
Lady Grey Bridge, ,,
Cape Town, ,,
Adelaide, ,,
Algoa Bay, ,,
Christiania. £44 10s.
Paraffin Wax—
Barcelona, £414
Italy, 265
Bayonne, 65
Bilbao, 165
Bordeaux, 63
Paris, 39
Rouen, £26 10s.
San Sebastian, £80
Santander, 45
Christiania, 43
Potash Salts—
Mexico City, £177
Potassium Bichromate—
Ghent, £28
Amsterdam, 213
Drontheim, 8 c.
Rotterdam. 158
U.S.A., 1,822
Antwerp, 27
Victoria, Aus., 149
Potassium Chloride—
U.S.A., 50 t.
Potassium Prussiate—
Rotterdam £372
Rosin—
Christiania, £3
Soap—
Puerto Cortes, 2 t. 10 c.
Bombay, 3 6¼
Sodium Bichromate—
Antwerp, 5 t. 1¾ c.
Ghent, 4 8¼
Italy, 20 16½
U.S.A., 15 16¾
Rouen, 30 2¼
Starch—
Barcelona, £45
Sulphuric Acid—
Rangoon, £120
Tallow—
Italy, 11 t. 10½ c.
Valencia, 5 11
Treacle—
Cape Town, 1 t. 14¾ c.
Bergen, 18 9
Christiania, 17 13
Waste Salt—
Bordeaux, 50 t.

TYNE.

Week ending March 19th.

Alkali—
Amsterdam, 40 t. 13 c.
Rotterdam, 4 13
Ammonia—
Barcelona, 3 t. 4 c.
Valencia, 93
Ammonium Sulphate—
San Francisco, 52 t. 3 c.
Anthracene—
Rotterdam, 34 t.
Antimony—
Rotterdam. 4 t.
Barium Binoxide—
Amsterdam, 10 t. 1 c.
Barcelona, 1 2
Barytes—
Antwerp, 1 t.
Bleaching Powder—
Amsterdam, 26 t. 10 c.
Antwerp, 25 1
Christiania, 4 17
Gothenburg, 39 14
Rotterdam, 3 11
Trondjeim, 11 9
Carbolic Acid—
Rotterdam, 5 t. 13 c.
Caustic Soda—
Aarhuus, 1 t. 3 c.
Amsterdam, 4 18
Antwerp, 12 10
Christiania, 4 19
Constantinople, 10 10
Copenhagen, 3 16
San Francisco, 15
Stavanger, 2 17
Chemicals (*otherwise undescribed*)
Rouen, 5 c
Creosote Oil—
Rouen, 1 t. 4 c.
Litharge—
Amsterdam, 5 c.
Magnesia—
Antwerp, 1 t.
Constantinople, 1 t. 11
Hamburg, 3 2
Rotterdam, 6
Paint—
Antwerp, 1 t. 2 c.
Bergen, 1 9
Gothenburg, 8
Hamburg, 2 6
Rotterdam, 11
Stavanger,
Phosphorus—
Valencia.
Pitch Oil—
Bergen, 2 t. 5
Soap—
Copenhagen, 5 c.
Soda—
Aarhuus, 5 t. 7 c.
Amsterdam, 67 15
Christiania, 13 10
Rotterdam, 5 3
Soda Ash—
Antwerp, 10 t. 15 c.
Copenhagen, 11 14
Lisbon, 20 5
Sodium Sulphate—
Antwerp, 3 t. 17 c.
Starch—
Copenhagen, 1 c.
Superphosphates—
Helsingborg, 1,108 t.
Valencia, 50
White Lead—
Copenhagen, 15 c.
Gothenburg, 1 t. 6

GOOLE.

Week ending March 16th.

Chemicals (*otherwise undescribed*)
Amsterdam, 30 cks.
Antwerp, 3
Coal Products (*otherwise undes.*)
Amsterdam, 5 cs.
Antwerp, 1
Ghent, 2 cks. 12 tns / qty.
Rotterdam, 19 2 cs.
Colours—
Amsterdam, 14 dms.
Ghent, 3 cs.
Dyestuffs (*otherwise undescribed*)
Ghent, 4 cks. 1 cs. 56 bgs.
Hamburg, 1
Manure—
Ghent, 638 bgs.
Pitch—
Antwerp, 1,305 t.

GRIMSBY.

Week ending March 19th.

Alkali—
Rotterdam, 5 cs.
Hamburg, 10
Chemicals (*otherwise undescribed*)
Dieppe, 1 kg.
Rotterdam, 80 dms.
Coal Products (*otherwise undes.*)—
Dieppe, 30 cks. 27 brls.
Colours—
Antwerp, 3 pks.
Hamburg, 9 cks. 2 cs.
Rotterdam, 1 13
Varnish—
Dieppe, 12 cs.

PRICES CURRENT.

WEDNESDAY, March 30th, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 %, and 40 %	per cwt.	5/9	&	8/9
" Glacial	"		39/-	
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¾
Oxalic	nett "	0	0	3½
Phosphoric, 1750°	"	0	0	11½
Picric	"	0	1	0
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	1½
Arsenic, white powdered	nett per ton	19	10	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	0	0
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %	nett "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	17	15	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	35/-	&	33/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	8	17	6
" " (grey) Hull	"	8	15	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt "	"	0	0	4¾
Antimony	per ton	31	15	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	6	15	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6	to	65/-
Bleaching Powder, 35 %	nett "	5	5	0
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	"	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	1½
" 50/90 "	"	0	1	4½
Carbolic Acid (crude 60°)	per gallon	0	2	1
" (crystallised 40°)	per lb.	0	0	7
" (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	3
Crude Naphtha 30 % @ 120° C.	"	0	0	7
Grease Oils, 22° Tw.	per ton	2	15	0
Pitch, f.o.b. Liverpool or Garston	"	2	18	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	5½
Copper	per ton	50	17	6
" Sulphate	"	16	5	0
" Oxide (copper scales)	"	45	0	0
Glycerine (crude)	"	22	10	0
" (distilled S.G. 1250°)	"	38	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	13	17	6
" Litharge Flake (ex ship)	"	16	0	0
" Acetate (white ")	"	24	10	0
" " brown ")	"	17	0	0
" Carbonate (white lead) pure	"	17	0	0
" Nitrate		20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
" " (grey) (ex ship	"	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	"	17	0	0
" Borate	per cwt.	2	5	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	6
" " Miscible, 60° O.P.	"	0	3	5
Oils:—				
Cotton-seed	per ton	15	10	0
Linseed	"	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
" (red)	"	0	2	8
Potassium (metal)	per oz.	0	3	7
" Bichromate	nett per lb.	0	0	3¼
" Carbonate, 90% (ex ship)	per ton	15	15	0
" Chlorate	per lb.	0	0	3¼
" Cyanide, 98%	"	0	1	1
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	5	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (refined)	per cwt.	1	1	6
" Permanganate	per cwt.	3	15	0
" Prussiate Yellow	per lb.	0	0	6½
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % do.)	"	8	15	0
Silver (metal)	per oz.	0	2	1½
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
" " (Caustic Soda-ash) 48 %	" "	4	5	0
" " (Carb. Soda-ash) 48%	" "	4	0	0
" " (Alkali) 58 %	" "	4	0	0
" " (Soda Crystals)	" "	2	5	0
" Acetate (ex-ship)	"	12	0	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	3½
" Borate (Borax)	net, per ton.	12	10	0
" Bichromate	" per lb.	0	0	3
" Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton	8	5	0
" " (74 % Caustic Soda)	" "	8	0	0
" " (70 % Caustic Soda)	" "	7	7	6
" " (60 % Caustic Soda)	" "	6	7	6
" " (pure liquor 90° Tw.)	" "	3	17	0
" " 77/78 % powdered (99 % hydrate)	"	12	0	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
" Nitrite, 98 %	per ton	25	10	0
" Phosphate	"	9	10	0
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	18	6
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	"	6	3	9
" Brimstone: Best Quality	"	4	10	0
Superphosphate of Lime (26%)	"	2	5	0
Tallow	"	21	10	0
Tin Crystals	per lb.	0	0	5
" English Ingots	per ton	68	5	0
Zinc (Spelter)	"	18	12	6
" Chloride (solution, 100° Tw.)	"	5	17	6
" Sulphate, Crystal	"	6	0	0

THE

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cations for the Editor, if intended for insertion in the k's issue, should reach the office not later than **Tuesday**

reports, and correspondence on all matters of interest to al and allied industries, home and foreign, are solicited. nts should condense their matter as much as possible, side only of the paper, and in all cases give their names es, not necessarily for publication. Sketches should be arate sheets.

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rtisements, Announcements in the Directory Columns, and all not prepaid, are charged a the Tariff Rates, which will be for- lication.

THE COAL CRISIS IN WALES.

THE struggle that has just commenced in South Wales is in many ways peculiar and without parallel.

There is neither strike nor lock-out, and yet more than half the collieries, with upwards of 50,000 employés, are idle. The miners are in revolt against their leaders, and the leaders are at variance with the employers.

For 25 years the men have worked under the sliding scale system, which has been remodelled as circumstances varied. Notice to terminate the old agreement on March 31st was given by the men six months ago, in order that a fresh reconstruction might be arranged, and at the beginning of March the masters on their side gave one month's notice terminating the men's engagement, but without any real intention of closing the pits. Nevertheless, the men have decided to cease work, adhering to their original resolution. All that they declare is that they will have a better agreement than the one expired.

Strange to say it is only with difficulty that many of the labour leaders can be brought to agree with the men in their determination to abandon the sliding scale in favour of the "minimum wage."

Of course, in the face of the latter there can be no "sliding," except in the upward direction. Presumably the men prefer to take their chance of extorting advances by strikes if trade improves, and to fix a limit to the possible downward movement by a "minimum wage." Their action has advanced prices in an alarming fashion. Whether it will affect wages in the same way remains to be seen.

It seems almost incomprehensible that so soon after the fierce and depressing fight in the engineering trades, so gigantic a dispute should be deliberately started. Already 80,000 men have ceased work, and the rupture will affect about 130,000 in all.

There is one fact which to us is most significant, and which shows that the combination of employers in the late engineering fight was not so great a departure as many supposed.

Although the sliding scale has been adhered to for a quarter of a century, the masters have steadily been making provision for the evil which now threatens to befall, for while the workmen through the series of years during which the sliding scale was in operation depended only on the scale, the associated employers have prepared themselves by the joint subscription of a small levy per ton of coal sold, until their reserve fund is reckoned by the hundred thousand pounds sterling. All this has been put by for use in exactly such an event as has occurred—a general strike or dispute.

The associated employers thus begin their campaign with a perfect organisation, a strong exchequer, and a skilled and experienced leader.

On the other hand, this is just what the men are without. More or less at loggerheads with their leaders, minus organisa-

tion, sufficient means, or a working programme, their position is most unfavourable, and we venture to think that those who are disposed to encourage them to fight just now are taking upon themselves a burden and responsibility which one does not like to contemplate.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE annual meeting of the Section was held last Friday week at the society's rooms, Victoria Hotel. As the result of the ballot, Mr. David Watson, D.Sc. (of the Broughton Copper Co.), was elected chairman; Mr. J. Grossmann, Ph.D., vice-chairman; and Mr. J. Carter Bell was re-elected hon. sec. The committee consists of Messrs. G. H. Bailey, George E. Davis, H. Grimshaw, W. H. Perkin, jun., and F. Scudder.

The adjourned discussion on the absorbed oxygen test was resumed, and after a rather lively controversy was finally disposed of in a satisfactory manner. Several papers were taken as read, one of them being a paper by Mr. Ivan Levinstein on "The bearing on the British chemical industry of section 22 of the Patent Designs and Trade Marks Act, 1883." Mr. Levinstein said that superior education alone did not account for the supremacy in chemical industries which Germany had wrenched from us. Indeed, our progress in training highly qualified chemists at Owens College had been most satisfactory, and already men were turned out who were quite as well trained as those who had studied on equal terms at any German University. "That the people of this country," he said, "possess inventive qualities at least equal to those of other nations is clearly shown by the fact that many of the greatest scientific and practical discoveries have been made by Englishmen." He enumerated the advantages possessed by Germany quite apart from superior education. She had a highly disciplined army of workmen, men by no means better technically trained, but disciplined, systematically trained to order, cleanliness, punctuality, and subordination, a Government always ready to remove any disadvantage under which their inventors, traders, and manufacturers may be labouring, cheaper labour, cheap, pure alcohol (both ethyl and methyl), cheaper inland freights, and patent laws enacted for the benefit and advantage of her native inventors and of her industries. About cheaper labour he was not so much concerned. The question of cheaper pure alcohol was serious, as the high price which our manufacturers had to pay for it made it absolutely impossible to manufacture in this country a number of valuable medicinal preparations, colouring matters, and other compounds in the manufacture of which pure alcohol was required. The advantages we possessed were—Free trade, cheap fuel, cheap primary materials, and a favourable geographical position. We possessed, therefore, all the natural factors for a healthy development of an industry, and if we lost the supremacy in the chemical industry we could have only ourselves to blame. Turning to the question of patent law, especially with regard to section 22, he compared that section with the corresponding sections of France and Germany, and showed the disadvantages under which our inventors, manufacturers and traders were put by our law as compared with that of our foreign rivals. That the sections dealing with the working of foreign patents in Germany and France were strictly carried out was proved by the fact that every large German colour maker had large establishments in France, where all patented articles were manufactured. The import of any of these meant forfeiture of the patent. In Germany foreign patents had been revoked by the German Courts for the reasons that they had not been worked in that country within three years. Referring to the deputation which waited last year on the President of the Board of Trade for the amendment of section 22, when Mr. Courtenay Boyle pressed the deputation to bring before the Board test cases, he said that in consequence of that invitation Messrs Levinstein, at the request and approval of the Manchester Chamber of Commerce, petitioned the Board of Trade for a compulsory licence. The trial lasted ten days; the joint costs were about £4,000. The petitioner was for about six days examined and cross-examined, and for several days at least, instead of being in the position of a plaintiff, had to defend the validity of his own inventions; he had to produce manufacturing calculations and to give information of internal matters which manufacturers did not care to divulge to the trade. In France and Germany such a trial would not have cost as many shillings as the costs here in pounds, and if the decision was in favour of the petitioners it would be final. It was high time Parliament should appoint a Select Committee to consider the whole question of our patent law, and he hoped that Mr. Cawley, M.P., might be successful whenever he had an opportunity to bring the matter before the House.

A HANDSOME GIFT.—Herr Krupp has given twenty thousand marks to the Institute for Physical and Electrical Chemistry at Göttingen University, of which Professor Nernst is the head.

Parliamentary Jottings.

COMPULSORY LICENCES TO WORK PATENTS.

In the House of Commons last week, Mr. Cawley asked the President of the Board of Trade whether, if the decision was in favour of the petitioners in the test case tried before the referee appointed by the Board of Trade, Levinstein *v.* Meister, Lucius, and Bruning, it would be possible for the German firm to take the case to two higher courts before the Board of Trade could compel them to grant a licence for an English firm to work in England an English patent which had been refused in Germany, and which anyone could work in that country.

Mr. Ritchie: The case referred to by the hon. member is one of several applications now being heard. I am not aware that any procedure could be adopted by a patentee against whom an order for a compulsory licence has been made to appeal against that order.

THE "LANCASTER" METALLIC PACKINGS.—Messrs. Lancaster and Tonge, Ltd., of Pendleton, have just issued a new catalogue, in which special attention is paid to improvements in their well-known packings. Their Composite Metallic Packing has been designed to meet the demand for a simple and inexpensive packing for very small rods. It is also suited for air-pump and other rods which have to work in bad water; for steam-hammer piston rods, or wherever similar severe shocks are encountered. It is not claimed that it is as durable as the "Lancaster" packing already described, but it is quite as efficient and only half the price.

RUSSIAN OIL TANK STEAMERS.—The Russian competitors of the Standard Oil Company have chartered the British steamships *Prudentia* and *Broadmayne*, which have traded to Philadelphia for years, to carry oil from Batoum to China. Both vessels are bulk oil carriers, and their charters cover a period of three years. They are owned in London, and have a carrying capacity of over 1,500,000 gallons each, and have heretofore carried petroleum from Philadelphia and Marcus Hook to England. For many years the directors of the Suez Canal have refused permission to bulk oil vessels to use the canal, owing to danger of fire and explosion, but this was overcome at the instance of the British Government, and vessels of this type admitted, subject, however, to stringent regulations. Nearly all of the oil used heretofore in China has been shipped by the Standard Company and carried largely on vessels loaded at Philadelphia, and this step is claimed to be only the beginning of a bitter warfare to be waged by the Russian producers against American oil.

POSTAL REFORMS.—At a meeting of the Postal Service Committee of the London Chamber of Commerce held on Monday afternoon, it was reported that the representations made by the Chamber to the Postmaster General on the subject of the prohibition against the transmission through the post of samples of liquids, greasy and colouring substances, had at last borne fruit. A circular notice was issued from the General Post Office on February 22nd, announcing that from March 1st such samples would be accepted if packed in accordance with the regulations, which are identical with those in force in other countries of the Postal Union. The concession applies to samples for transmission either at home or abroad. Great satisfaction was expressed at the granting of this service by the Post Office which responded to a much-needed want in business circles, and considerable gratification was expressed at the action which it was believed that the Duke of Norfolk had personally taken in bringing about this improvement. It was also decided that steps should be taken in connection with the registration and postage of newspapers, telephone delays, post-registered telegrams, etc.

THE S. O. "EXTENDS."—The Standard Oil Company of New York on March 23rd, filed with the Secretary of State at Albany, a certificate of an extension of its business, and thus amends the company's articles of incorporation. The new objects are: The purchase and sale of products of petroleum and all products entering into the manufacture thereof, and the purchase and sale of utensils and packages in which such products and materials are used, stored and transported, or the materials used in the manufacture of such utensils and packages; said business of buying and selling to be done in all countries in which markets may be found; also the purchasing, acquiring, holding and disposing of the stocks, bonds and other evidences of indebtedness of any corporation, domestic or foreign, engaged in a similar business or engaged in the manufacture or sale of property useful in the business of this corporation or in which the manufactured articles, product or property of this corporation are or may be used. The certificate states that the capital stock of the company is £1,400,000. and the following are the directors: William Rockefeller, John D. Rockefeller, H. M. Flagler, John D. Archbold, H. H. Rogers, W. H. Tilford, A. M. McGregor, Paul Babcock, and C. M. Pratt.

The Patent List.

ist is compiled from Official sources in the Manchester Laboratory, under the immediate supervision of . Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

LICATIONS FOR ENGLISH LETTERS PATENT.

Textiles Uninflammable. W. and J. E. Howarth and T. N. 6,845. March 21.

ating Apparatus. G. W. Elliott. 6,898. March 22.

Charcoal and Bye-products from Peat Lignite. M. Ziegler.

Carbonate and Sulphate of Lime from Caustic Residues and atus therefor. H. E. Sturcke and W. F. Jobbins. 6,987. March 22.

ure of Phosphorus. L. L. Billandot. 7,002. March 22.

Fish and Fish Offal, etc. W. Shedlock. 7,017. March 23.

ure of Flowers of Sulphur. R. H. Davidson and The United Co., Ltd. 7,036. March 23.

ubstitute. A McQuade. 7,152. March 24.

and Medicated Soaps. Sir T. G. F. Hesketh 7,169. March 24.

mposition. P. Marquart. 7,185. March 24.

g Mineral Oil Vapours The Mineral Oils Corporation and P. witz. 7,191. March 24.

s. F. Edwards. 7,210. March 24.

Drying Oils. J. Hertkorn. 7,242. March 25.

n Cement. J. W. Butler. 7,267. March 25.

Sulphides from Sulphates, also Hydrogen Sulphide, Sulphur, rous Acid, and Alkaline Carbonates. W. Baranoff, E. Hildt, and laus. 7,279. March 25.

id. J. W. Hill. 7,341. March 26.

g Wool, etc. J. Smith and Sons, Ltd., and W. Leach. 7,357. Mar. 26.

RACTS OF LATEST COMPLETE SPECIFICATIONS.

bstracts are specially prepared for the Chemical Trade Journal, RIGHTS *of publication are* RESERVED. *This is the earliest abstracts of Chemical and allied patents accessible to the*

Process for Preparing Insoluble or hardly Soluble Salts from ic Anodes by Electrolysis of Aqueous Solutions, containing alts. Dr. C. O. Strecker, 26/28, Christophstrasse, and Dr. H. H. r, 9, Limburgerstrasse, both of Cologne. Eng. Pat., 26,921. Nov. 17, 1897.

ctrolyte is prepared by mixing a soluble salt, preferably an hlorate with precipitating salts such as alkaline phosphates, or carbonates, in such a manner that the electrolyte contains ving salt in the proportion of the greatest conductivity and itating salt in the proportion of the electro-chemical equiva- current density used. An example in the case of the pre- ite lead is fully worked out.

ents in or Relating to the Production of Protoxides and , or of Hydro-Protoxides and Hydroxides, from Metallic s, by Electrolysis of Alkaline Solutions. Dr. C. O. Strecker, hristophstrasse, and Dr. H. H. Strecker, 9, Limburgerstrasse, both of . Eng. Pat., 26 923. Nov. 17, 1897.

cess depends on taking advantage of the division of a salt acid ion, and an alkaline hydrate, in order to dissolve recipitate the anode metal employed. The electrolyte kept in constant motion. In the case of zinc hydroxide the are zinc, and the electrolyte a 26 per cent. solution of salt. ctrolysed with 0 5 ampere current per square decimeter of l a tension of about 1.3 volts. For lead hydroxide a 7 per m chlorate solution is used, with practically the same con- current. Examples for copper, nickel, cobalt, bismuth, iron, etc., are given.

ents in Making White Lead. J. S. Macarthur, 589, Shields-road, . Eng. Pat. 9,775. April 17, 1897.

a modification of patent 9655/94. Ammonia is added to the te solution before precipitating the white lead with carbon By so doing, the liquid need not be almost boiling, and y precipitation can be effected at 180° F., or thereabouts. ld be taken to avoid supersaturating the solution with carbon therwise it cannot be used to dissolve more lead oxide with- lising the excess carbonic acid gas.

ents in the Treatment of Tanning Liquids for Clarifying, ing, and Decolorising them. P. G. Sanford, 20, Cullum-street, . Eng. Pat. 12,450. May 20, 1897.

ium fluoride is dissolved in water at 25°-35° C., and mixed and dialysed. Boracic acid may be added after dialysis or extraction by pressure. Enough of this preparation is added to effect coagulation, the temperature being raised to 65° C., so as to complete this action. Blood and ammonium fluoride may also be used as a discolourant, using picro-citro acid to precipitate the albumen. If necessary, the liquor to be treated is neutralised with a sodium borate and caustic mixture prior to discolourisation.

Improvements in Apparatus for Drying Wheat, Brewers' Grains, Fish Guano, and other Substances. J. C. W. Stanley, 5, Dewhurst-road, West Kensington, and A. W. Maxwell, of 75, Burntash-road, Lee, Kent. Eng. Pat., 8,321. March 31, 1897.

The dryer consists of a deep narrow pan, fitted with a worm conveyor, the bottom of the pan being round so as to facilitate the action of the conveyor. Steam jets are fitted in the elbows of the delivery pipes placed in the cover of the pan, so as to accelerate the removal of the vapours given off during the drying process. For general purposes the pan is heated by a steam jacket. Nozzles are provided (usually between the vanes on the conveyor) for introducing compressed, and if desirable heated, air into the material being dried. There are two figures.

Reports of Companies.

SAN JORGE NITRATE CO., LTD.

THE report of the directors for the year ended December 31st last states that notwithstanding the fact that under the recent combination this company was restricted to practically four and a half months work, the gross profit on trading amounts to £30,360., a result which the directors cannot but think the shareholders will regard as satisfactory, especially in view of the extremely low prices ruling for nitrate during the greater part of the year. Adding the amounts received for interest, transfer fees, etc., and deducting the expenses of London office, income tax, and legal charges, there remains a net profit of £26,510. to be carried to the balance sheet. To this must be added the sum of £4,422. brought forward from last year, after providing for the dividend of 5 per cent. paid in April, 1897, and the sum of £10,000. appropriated to depreciation account—making in all £30,932. Of this an interim dividend of 2½ per cent, absorbing £9,375, was paid on October 18, 1897, leaving £21,557. now to be dealt with. Substantial amounts have this year been written off for depreciation in the West Coast books, while the plant and machinery have been maintained in a good and efficient state of repair at the cost of revenue. The directors now propose to pay a further dividend of 5s. per share free of income tax, making 7½ per cent. for the year, and to carry forward the balance of £2,807. 15s. 1cd. to next account. The exceptional position in which this company stands, as one of the cheapest producers of nitrate, has again enabled it to show a substantial profit to its shareholders, and had it not been for the excessive restriction of production falling to its share under the late combination, that profit would have been very much greater. The results attained have been greatly facilitated by the possession of ample funds on this side, and the directors congratulate the shareholders that the policy of placing such large amounts to reserve in past years, has now enabled them to reap an appreciable benefit therefrom. Shareholders are no doubt aware that the late combination was declared to have been broken on October 15th last, and on November 1st, this company resumed manufacture, which has been consistently carried on since, thus avoiding the necessity of keeping the oficina closed for five months without any return. Fresh proposals have already been made for a new combination, but the directors, before giving their adhesion thereto, will insist upon proper consideration being shown to the exceptionally favourable position in which this company is placed.

RIO TINTO COPPER COMPANY LIMITED.

The Directors will, subject to final audit, recommend a final dividend of 20s per share on the ordinary shares, free of income tax, making, with the interim dividend of 20s. paid in November last, 40s. per share, or 40 per cent. for the year 1897. This is after providing for the dividend on the 5 per cent. preference shares, interest on the 4 per cent. mortgage debentures, adding £40,000 to the reserve fund, writing off the amount of drawn bonds, and sundry depreciations, £103,600., and carrying forward £21,700 to the current year's account.

MESSRS. DOULTON & CO.—This firm advise us that, owing to the increased demand for their productions, they have taken new and enlarged show rooms at St. James's Square, Manchester, where a large selection of the latest examples of their sanitary fittings will be on view. Special attention is called to their new vitreous enamelled baths and silent syphonic closet.

COMMERCIAL ANALYSIS OF BAUXITE.

An interesting investigation of the methods of analysing Georgia and Alabama bauxites has recently been communicated by Messrs. W. B. Phillips and D. Hancock, to the Journal of the American Chemical Society. The following is the method which the authors recommend as the final outcome of their investigations.

ANALYTICAL METHOD.

The analytical sample is to be passed through a sieve of 100 meshes per linear inch.

Moisture.—Two grams to constant weight at 100° C.

Available Alumina.—Two grams bauxite. ten cc. cold sulphuric acid of 50° B. (Sp. gr. 1·532.)

Heat gradually in a casserole until fumes of the so-called sulphuric anhydride appear, stirring the while to break up any small pieces; cover with a watch-glass and heat for ten minutes. Cool, add 100 cc. hot water, and boil for five minutes. Filter, and wash free of acid and alum with hot water. Cool filtrate, make up to 200 cc., and take out 50 cc. (equal to five-tenths gram) for alumina, ferric oxide, and titanium dioxide, and 50 cc. for titanium dioxide and ferric oxide (TiO_2 and Fe_2O_3).

Estimation of Available Alumina.—The 50 cc. (equal to five-tenths gram) is diluted to 300 cc., two cc. hydrochloric acid added, heated to boiling, and ammonia added slowly to slight excess. The contents of the beaker are kept boiling for five minutes, filtered hot, and thoroughly washed with hot water. The precipitate is dried, ignited, and weighed as Al_2O_3, Fe_2O_3, TiO_2. The Al_2O_3 is given by subtracting the Fe_2O_3 and TiO_2, obtained in other operations.

Estimation of Titanium Dioxide.—50 cc. (equal to five-tenths gram) of the main solution are carefully neutralised with ammonia, the ammonia being added until there is a slight permanent precipitate. This precipitate is dissolved in sulphuric acid, added carefully so that there shall be but a slight excess; the volume is then made up to 350 to 400 cc. and boiled for one hour. If much iron is present (shown by the colour of the main solution) it is best to deoxidise with sulphur dioxide, led into the boiling solution in which the titanium dioxide is being precipitated, but if there is only a small amount of iron present sulphurous acid may be used. In either case, however, it is well to maintain the volume of the boiling solution at about the same point, by the addition of fresh portions of water, and to be sure that it smells of sulphur dioxide during the boiling. By observing these precautions the titanium dioxide is completely precipitated practically free from iron. Filter hot, through double filters, and wash thoroughly with hot water, dry, ignite, and weigh as titanium dioxide.

Estimation of Ferric Oxide.—This is best determined in the filtrate from titanium dioxide, by reduction with zinc and titration with permanganate.

The weight of $TiO_2 + Fe_2O_3$ subtracted from the weight of $Fe_2O_3 + Al_2O_3 + TiO_2$ gives the Al_2O_3, and this is the "available alumina."

Estimation of "Free Alumina."—Two grams bauxite, ten cc. 50° B. sulphuric acid, in a four-ounce Erlenmeyer flask, provided with a perforated stopper. Heat for one hour in a water bath at a temperature of 95° to 100° C., with frequent shaking. Add 100 cc. hot water, and keep in bath for ten minutes. Filter, wash thoroughly with hot water, and for the estimation of alumina proceed as before, with this difference, however, that the titanium dioxide does not have to be determined, since none of it goes into solution. In the solution we have merely the free alumina, and a small amount of ferric oxide, which can be estimated in the usual manner and its weight subtracted from the weight of the $Al_2O_3 + Fe_2O_3$.

Combined Alumina.—The difference between the available alumina and the free alumina is the combined alumina.

We do not at this time wish to give an opinion as to the form in which this alumina exists. It may be as clay, as a lower hydrate, or a mixture of these and other alumina compounds. We have thus far disregarded the insoluble residue, whether from the acid carried to fumes, or from the treatment at 100° C.

In case it is desired to determine the total alumina, the total titanic acid, the total ferric oxide, and the silica, the insoluble residue from the treatment to fumes may be folded up in the paper and ignited. When the paper is consumed, fuse the residue with potassium bisulphate, and allow to stand in cold water containing at least five per cent. of strong sulphuric acid several hours, or until completely decomposed. Filter off the silica, which should be perfectly white, wash thoroughly with cold water, and ignite the silica. In the filtrate the alumina, titanium dioxide, and ferric oxide are determined as in the filtrate containing the available alumina. Adding these several amounts to those found in the estimation of the available alumina gives, of course, the totals.

We cannot advise the determination of silica in the insoluble residue by treatment with hydrofluoric acid and sulphuric acid, as we have found that some of the titanium dioxide is also volatilised, and the loss is $SiO_2 + TiO_2$.

So far as we are aware Riley was the first to point out the volatilization of titanium dioxide as fluoride. It may be that some, if not all, of what is volatilised goes off as hydrogen titanofluoride, as Roscoe and Schorlemmer state, that when titanium dioxide is dissolved in hydrofluoric acid, a syrupy liquid is obtained which is probably hydrogen titanofluoride, H_2TiF_6. Crookes, in speaking of the estimation of titanium dioxide in silicious residues, says that on treating them with hydrofluoric acid "a titanium fluoride is formed at the same time, which cannot be heated without the larger portion going off." He quotes an experiment of Riley's in which 2·235 grams of titanium dioxide were dissolved in hydrofluoric acid, evaporated and ignited, and the residue weighed only 0·99 gram, a loss of 1 245 grams, or 55·70 per cent. of the original weight.

By seven successive treatments of titanium dioxide with hydrofluoric acid we found the following losses on 0·0700 gram, viz.:—

	Per cent.
0·0025	3·57
0·0240	34·28
0 0135	19 29
0·0058	8·29
0·0032	4·57
0·0015	2·14
0·0001	0·14
0·0506	72·28

While there is a gain in time by treating the insoluble residue with hydrofluoric acid and sulphuric acid and taking the loss as silica, and while the error introduced is, perhaps, of no consequence commercially, yet the fusion with potassium bisulphate is to be preferred. But unless the silica, and the total alumina, titanium dioxide and iron are required, it is not necessary to make a fusion, the data obtained by the two separate treatments with acid being, in most cases, entirely sufficient for the valuation of bauxite.

So far as our observation goes, and we analysed many different kinds of bauxite, titanium dioxide is always present, and in some bauxites may rise to four per cent. The clay immediately next to the bauxite may contain one per cent. of titanium dioxide, as we have found eight-tenths per cent. In other clays associated with bauxite we have found mere traces, and in the near-by soils it rarely exceeds five-tenths per cent. The concentration of the titanium dioxide in the bauxide is a very interesting phenomenon, and worthy of more extended investigation.

The titanium dioxide in bauxite is partly soluble in sulphuric acid brought to fumes. By using the Pittsburg method in bauxite acid analysis, or sulphuric acid alone to fumes, varying amounts of titanium dioxide are dissolved, as the following results show:—

Total titanium dioxide.	Soluble titanium dioxide.	Per cent. soluble.
4 00	3·30	82·50
3·00	2·60	93·33
4 00	2·50	62·50

The percentage of soluble titanium dioxide calculated on the total amount present, may fall as low as 50 per cent., but for the most part appears to be about seventy-five per cent. No titanium dioxide seems to be dissolved by the acid at 100° C. during one hour, but as the temperature rises the solubility increases, and when brought to fumes considerably more than half is dissolved. The variations in the amount dissolved may be due to variations of the form in which the titanium dioxide is present, but on this point we have no definite information. In summing up the chief points in this paper, we desire to call attention to the following:

1. The importance of discriminating in the analysis of bauxite between the trihydrate of alumina, easily soluble in sulphuric acid, and the other compounds of alumina, difficultly soluble.

2. A change in the basis of valuation, by which the trihydrate of alumina is to be given a higher value than the alumina present in some other form.

3. The adoption of a new nomenclature, calling the alumina soluble in 50° B. sulphuric acid at 100° C. during one hour "free alumina," and that soluble in sulphuric acid to fumes "available alumina," the difference between them to be known as "combined alumina."

4. The adoption of a standard method of analysis binding alike on the producer, the broker, and the consumer of bauxite for alum-making.

Messrs. Arthur King & Co.—This firm advises us that their connection with Messrs. Joseph Crosfield & Sons, Limited, having ceased, they have been appointed export agents to Messrs. Charles Tennant & Co., of Saint Rollox, Glasgow, for the sale of their well-known and high-class soaps. This firm has also been appointed sole London export agents to Messrs. Roger Le Beau et Cie, Ltd., London and Paris, who are also sole proprietors of Messrs. Napoleon Price & Co., Ltd., successors to Messrs. Price & Gosnell (established 1770), manufacturers of the well-known high-class toilet soaps, perfumery and toilet requisites. Their address is 22, Billiter-street, London, E.C.

Selected Correspondence.

THE DISPOSAL OF SEWAGE.

To the Editor of the Manchester Guardian.

Sir,—The Local Government Board have now made it plain that they will not sanction any future loans for sewage disposal purposes where a scheme of land filtration to satisfy their requirements is not provided in addition to artificial chemical filtration. In other words, that is to be a *sine qua non*. The position is a serious one for Manchester and for all municipalities like circumstanced, and the question now arises, what is the best to be done? The Rivers Committee of the Manchester Corporation are beset at every step they take with difficulty; yet the problem before them has to be met. At present there is the Mersey and Irwell Committee demanding an effluent which some minds consider impossible to secure with sewage of such constituents as the Manchester sewage, but which is perfectly attainable if the Corporation will only go to the expense of the proper precipitants. On the other hand, the Local Government Board steps in and demands a system of treatment which, on the ground of expense alone, is all but prohibitive; and the only other alternative, namely, a culvert to carry the sewage to sea, is condemned by the citizens themselves. What is therefore to be done? Before the Local Government Board can demand such a condition, I think they must obtain Parliamentary sanction. Now this sewage disposal problem has vexed the minds and taxed the resources of municipal corporations for many years. Probably no subject coming within the duties of corporations and municipal governing bodies has received more careful and thoughtful attention. Yet we seem no nearer the end in view, which is the production of an effluent harmless and innocuous and fit to be turned into a flowing stream. Would not the present be a fitting occasion for Manchester, in conjunction it may be, with such other municipalities as would join them, to go to Parliament in order to settle and define what it is to be the test to be demanded before a sewage effluent is deemed to be harmless to the stream into which it is to flow?

No one can accuse the Rivers Committee of the Manchester Corporation of having shirked the task before them. They have failed not because of indifference or indolence, but because they have so far found it impossible to meet the requirements set up or to fulfil the demands of the central body in London without incurring an expenditure higher than they anticipated or desired, or that they like to ask the Council to sanction. But the work has to be done. It is all very well for them to propose the adoption of bacteria filter beds, but it will only add another failure to the sequence of failures already experienced. They have some of these filters at Davyhulme already, and no report of the result is forthcoming. Why should they incur additional expense in a second failure? The system is not a new one. It has existed for over a score of years, though, it may be, under another name, and has never produced a continuing result of a satisfactory character in regard to manufacturing sewage. If bacteria, which are natural enemies, can exist at all in a sewage, they may prey upon each other, and so act to the advantage of the effluent; but what if the sewage itself be such that bacteria of any kind whatever yield to its deadly constituents? They then all succumb to the common enemy, and the last state is worse than the first. The common-sense solution of the difficulty is to convince Parliament that the present restrictions of the Local Government Board must be removed, so that if a sewage like the Manchester sewage is dealt with by the application of the latest discoveries of chemical and engineering science it shall be sufficient. It is no use fighting impossibilities. We can never hope to make a river like the Irwell as pure as a mountain stream, and until an enactment providing for the best treatment of the sewage without this unnecessary purchase of land is secured, there can be no end of the irritating and hopeless condition in which Manchester and other like communities are now placed. It has been proved over and over again that artificial filtration alone, with the best precipitating elements, will ensure an effluent that is harmless to life and health, and if measures were taken to demand that the best means shall be adopted to that end, that would seem to be the consummation with which, for the present at all events, we must be satisfied.—Yours, etc., X.

THE RUSSIAN PETROLEUM AND LIQUID FUEL COMPANY.

To the Editor of The Financial News.

Sir,—As from sundry loose observations in the miscellaneous press an absence of knowledge regarding this undertaking and the industry generally may be inferred, some trustworthy information should not be unacceptable. It is a fact that profits exceeding £500,000. sterling have been made since the Russian Petroleum Company passed into the more energetic hands of its British managers. The whole of the possible production of the properties has been sold one year in advance at present prices. The result of the first year's working must therefore be so enormously profitable that it is undesirable to attempt to forecast it precisely. The business does not depend mainly upon refining or shipping refined products, but upon the local consumption of the residual or by-product (about 70 per cent. of the crude oil as it flows from the wells) for fuel, and this is coming more and more into demand as the supply of timber from the Russian forests is falling off. All the Russian petroleum companies are becoming immensely profitable, as the demand is increasing out of proportion to the supply of oil. A European demand is also springing up, and special rates to facilitate its delivery have been made by the Austrian and German railways; but it is always more for fuel than lighting that the oil is wanted. Last year, as Messrs. Turquand, Youngs and Co.'s certificate in the prospectus shows, the profits of the Russian Petroleum Company had advanced to £383,246. or, after providing for the preference shares, enough to pay over 60 per cent. dividend upon the ordinary shares, and this after making more than ample allowances for depreciation, etc. If these shares were of the value of £1. instead of the aristocratic £10., no one would think them very dear at £5. (or the equivalent of £50.) One or two of the directors are of such lordly status that they could not be expected to understand presiding over any concern with shares of a less value than £10. However, I am credibly informed that they have abandoned their prejudice in this respect, and that the £10. shares will be converted almost immediately into shares of the denomination of £1., and also that some of the money with which the company's coffers are overflowing will be distributed next month by way of dividend.

It must be annoying, therefore, to shareholders to hear silly remarks about "the gamble in oil shares," the frightful effects of "war," etc., in connection with this investment. As a matter of fact, war would greatly enhance the demand for the products of the industry and the profits, whilst it could not hamper their distribution, for that is internal, and not seaborn at all. The Russian Government is keenly desirous to foster the industry, and gives every possible encouragement to capital so employed, and the greater energy and scientific skill now being brought to bear under British and continental auspices, which takes effect principally in sinking new wells in a systematic series, so as to be dependent upon one at a time, are giving an impetus to the trade which is almost like a new birth. The more the facts are looked into and inquiries instituted the more will the splendid opportunities of profit in this direction become apparent.—I am, etc., One Who Knows.

ANSWERS TO CORRESPONDENTS.

Nickel (Liverpool).—We are not able to give any definite additional information at present, but have the matter under observation.

E. S. S., Ltd.—It is not out yet, but will be included in the next issue or so.

H. L.—You are mistaken.

E. A.—We are waiting for blocks.

A. M. (Lille).—1. When oxide of iron has been used to eliminate sulphur compounds from coal gas, it is known technically as "spent oxide," and contains on an average about 50% sulphur, which burns freely and is a first-class raw material for the manufacture of sulphuric acid. 2. No *data* enabling us to answer your second question.

THE MERSEY AND IRWELL JOINT COMMITTEE.

A MEETING of the Mersey and Irwell Joint Committee was held on Monday, at the offices, Mosley-street, Manchester, the Right Hon. Sir J. T. Hibbert presiding.

The Chief Inspector's Report having been taken, the Consulting Sub-Committee reported in

THE CASE OF SALFORD

that when the matter was last before his Honour Judge Parry, on July 22nd, 1897, the witnesses for the Corporation stated that they could let the whole of the contracts for the construction of filters and other necessary alterations at the works so as to comply with the order of the Court within eight months. The eight months had now expired and that had not been done. On the 28th March, Mr. W. H. Wilson, assistant clerk to the Committee, wrote to the Town Clerk of Salford pointing out that since the matter was before Judge Parry—when the Corporation were ordered to give notice to the Joint Committee of each step taken by them with reference to the carrying out of the filtration scheme—nothing had been heard from the Corporation, neither could it be ascertained that anything had been done. Failing full and satisfactory particulars being forwarded before the next meeting of the Sub-committee, which was held on the 30th March, he (the Clerk) had received instructions to again bring the matter before the Court. In reply, a letter was received from the Town Clerk forwarding particulars as to what had been done and pointing out that the Rivers Conservancy Commtttee during the latter part of the year were much hampered in carrying out the scheme of the Corporation by the fact that the works were practically without a manager for a considerable time. The works were now being vigorously proceeded with. The Sub-committee recommended that a copy of the correspondence be forwarded to the Court, and that, as the matter was now in the hands of the Judge, the Clerk be instructed to take such further

action as might be necessary, as the Sub-committee did not consider that the steps taken by the Corporation were satisfactory, none of the principal contracts having as yet been let.

Mr. Killick moved the adoption of the report.

The motion having been seconded,

The Chairman said the recommendation with reference to Salford should read, not that the Clerk be instructed to take such further action as might be necessary, but that the Committee should take such further steps as the Judge might deem necessary.

Mr. Alderman Jenkins said he should like the culprit to have a chance of saying something. He dissented from the suggestion that such steps should be taken as his Honour might deem necessary. The Judge was not a member of the Committee, and he did not suppose, therefore, that he would know very much with regard to the treatment of sewage, or what would be the best thing to do. He took it that his Honour stated that Salford should do certain things to the satisfaction of that Committee, and give them notice from time to time as to what they were doing, and then, if that was not done, each or either party could apply to the Court. If the Committee in its wisdom thought Salford was not carrying out what she should have done, then the Committee could apply to the Court, Salford would have the right of reply, and his Honour would then come to a decision. He called the attention of the Committee to one portion of the evidence of the engineer—that they were going to begin by improving the present tanks. He did not know what information the Committee had before them, but the cost of the works had increased from £51. a week to something like £100 or £120. a week. As a member of the Joint Committee he was bound to be loyal to that body, and also to the other Committee in Salford, of which he was a member, and he felt justified in saying that in his experience—and he thought he could appeal to the experience of gentlemen connected with that Committee—it seemed impossible to press matters as fast as that Committee desired. They were bound, he took it now, to give a certain length of time for corporations, and especially large corporations, to do an important work like that imposed on Salford. In endeavouring to obtain a little longer time he did not think the Salford Corporation were doing more than was reasonable. Their scheme was to cost £80,000., and the Corporation desired to carry it out and not to shirk their liabilities, but he submitted that it was impossible for the Corporation to carry it out by adopting a hard and fast line. If the contracts the Corporation were getting out now had been forced some four or five months ago, he did not think he was wrong in saying that it would have been impossible to have obtained tenders except at a price which would have been most exorbitant because of the engineers' dispute. He admitted that Salford was a guilty party and had committed an infraction of the law. So far as legal proceedings were concerned, however, he thought both the Joint Committee and the Salford Corporation had had a pretty good dose of them, and that the money expended had done no one any good. They had let certain contracts, which bound them, and had got certain materials upon the ground, which also bound them, and he asked that a further extension of time for three months should be granted.

At the request of the Chairman, the Clerk explained the legal position of the matter as laid down by the County Court Judge at the hearing of the action in July last.

Dr. Hewitt said they were satisfied, upon the evidence of their own officials, that the progress made by Salford was not satisfactory. The Joint Committee were bound to say that whatever the difficulties of Salford might be, the injury done to the people below was continuing, and they had to consider them. He hoped the Committee would not interfere in the matter, but would allow Judge Parry to deal with it.

Mr. Alderman Jenkins: It was left to this Committee, with power to apply; it was not left to Judge Parry at all.

In reply to a question, the Chief Inspector said, with one exception, Salford had spent less money on sewage works and sewers than any other town in the watershed.

Mr. V. K. Armitage said they had got rid of their responsibility for allowing Salford to go on as she was doing by referring the matter to the Judge, and he did not feel willing to take that responsibility back.

The Chairman said that if it had been possible he should like to have met the wishes of the representatives of the Salford Corporation, but as the matter was really before the Judge, he did not think the Committee could take any steps to remove it from the Court. They must act in the view that the matter was in the hands of the Judge. He should have liked, instead of the resolution proposed, something in this form, viz.: that eight months having expired since the case was before Judge Parry, and this Committee being of opinion that the steps taken by the Corporation were not satisfactory, a copy of the correspondence be forwarded to Judge Parry or the Court, leaving him to take such steps as he might deem necessary.

Mr. Jones: Leave out the remarks of the Committee.

Mr. Killick said he objected most strongly to that, because they did not think that the action of Salford had been satisfactory.

Mr. V. K. Armitage: The first question which Judge Parry will ask [illegible] the Committee satisfied?"

The resolution that the report, including the recommendation of the Sub-committee with regard to Salford, be adopted was then put and carried, the Salford representatives alone voting against it. Sir John Harwood and Mr. Alderman Hopkinson, representaives of the Manchester Corporation did not vote.

MANCHESTER SEWAGE DISPOSAL.

THE DAVYHULME EXPERIMENTS.

In accordance with the directions from the Rivers Committee of the Corporation, Mr. G. J. Fowler (the Committee's chemist) has prepared a brief report describing the small experimental filters at Davyhulme, and summarising the results obtained during the last twelve months. Having given details of the structure and mode of working of the different classes of filters, Mr. Fowler says that the two coke and cinder filters, allowing for Sunday's rest, are now dealing with the effluent at the rate of 677,000 gallons per acre a day; the coal filter is dealing with the effluent at the rate of 508,000 gallons per acre a day, and the burnt clay filter at the rate of 837,000 gallons per acre a day. As exhibiting the work done by the filters in converting the organic matter in the tank effluent into harmless products, he presents the following table showing the average result of daily analyses during the period from January 6th to May 12th, 1897:—

	Oxygen absorbed four hours. Grains per gallon.	Free and saline ammonia. Grains per gallon.	Albuminoid ammonia.
Tank effluent ..	2·24	2·06	0·29
Coke filter ..	0·91	1·52	0·15
Cinder filter ..	0·72	1·27	0·11
Coal filter (from week ending Feb. 24, 1897)	0·73	1·75	0·12

The results of the incubator test are also set out in detail. It is concluded on the data supplied that the most suitable filtering material for artificial filters is furnace cinders.

COMPARISON ON FILTERS.

Good results, it is added, can also be obtained from coal, and the material might be burned in case of renewal of the filter beds, but "experience has shown that it is rather more difficult to keep the filtrate non-putrefactive and the surface from clogging in the case of a coal filter of a comparatively small capacity such as that at Davyhulme. A coal filter of greater openness does not appear to be likely to offer much advantage over burnt clay, the results from which, however, are not altogether satisfactory." With regard to the capacity of filters, Mr. Fowler reports that there is no doubt the insoluble inorganic matter in the tank effluent must gradually accumulate in the filters and in time cause a loss of capacity, but this loss of capacity does not continue at the same rate after the first year's working. The life of a biological filter would be increased by the use of a preliminary roughing filter. Whether the first cost and subsequent maintenance of this would entail greater expense than the occasional renewing of the material of the final filter is a matter to be determined. The clogging takes place to the greatest extent on the surface at the edge of the filters. If this becomes excessive, occasional rest and a turning over of the clogged portions of the surface, so as freely to expose them to the air, enables the filter to work satisfactorily again. It is possible that in a larger area the clogging would be relatively less, the greater part still taking place at the sides and leaving a large free space in the centre. This can only be determined by experiment.

Regarding the chemical activity of filters it is stated that "the fact that the albuminoid ammonia figure for the cinder filter, which is the most satisfactory in its working, is slightly less now than at a corresponding period of 1896, shows that the chemical efficiency of this filter is unimpaired. Owing to the presence of oxidisable manufacturing refuse in the sewage the figures for oxygen absorption are somewhat above the Mersey and Irwell Joint Committee's limit, but the incubator test shows that very little sewage impurity is present in the filtrate from the cinder filter." Mr. Fowler, in conclusion, says:—"While it cannot be guaranteed that under no circumstances will a filtrate be obtained which is above the Joint Committee's numerical standard, yet, with very few exceptions, it has been shown that a filtrate which is incapable of undergoing putrefactive change can be constantly obtained from the cinder filter. With increased knowledge of the conditions of successful filtration of such a tank effluent as is produced in Manchester, it is likely that even more satisfactory results, both as to quantity filtered and quality of the filtrate obtained, may be looked for in the future."

TABLES FOR USE IN AGRICULTURAL ANALYSIS.

WITH a view to making these tables as complete as possible we now supplement our table for phosphates on pages 254 and 255 of the *Journal* No. 516, by the corresponding tables for Phosphoric Acid (P_2O_5) and for the "Soluble Phosphate," otherwise called "Monocalcic Phosphate," "Acid Lime Phosphate," "Monobasic Phosphate," CaP_2O_6, etc. Their need will be evident from an inspection of the usual form for stating complete analyses of Guano:—(1) Moisture, (2) Organic Matter, (3) Phosphoric Acid P_2O_5, (4) Lime CaO, (5) Magnesia-Alkalies, &c., (6) Insoluble Silicious Matters. Total 100·00. The equivalent of tribasic phosphate of lime corresponding to the phosphoric acid being stated at the foot of the certificate, where also the percentage of nitrogen, ammonia, and potash, if any, are entered.

Or again, of Superphosphate:—(1) Moisture, (2) Organic Matter, (3) Monocalcic Phosphate CaP_2O_6, (4) Insoluble Phosphate, (5) Sulphate of Lime, &c., (6) Insoluble Silicious Matters. Total 100·00. The equivalent of (3) as % tribasic phosphate rendered soluble, being stated at the foot of the analysis, as also the nitrogen and ammonia, if any. This is the form adopted by the leading manure analysts. The tables for phosphoric acid are calculated with the correction of the late Dr. Voelcker for solubility, *i.e.* + 0·33%, and for monocalcic phosphate with + 0·46%, and the method described for the phosphate table, page 254, vol. XX., is to be used, viz.:—Using Ammonia, 2 grms. Citric Acid, Acetic Acid, and 2 grms. Oxalate of Ammonia to throw down the Lime, and 50 *c.c.* Ammonia 0·880 sp. gr. and 50 *c.c.* Magnesia Mixture to throw down the Phosphoric Acid.

It may be asked why not have a table for the lime? If the Calcium Oxalate be titrated with Decinormal Permanganate *c.c.* × 0·14 gives per cent., or if it be ignited to Carbonate and titrated with normal HCl *c.c.* × 1·4 gives per cent. CaO., which is too simple to need a table.

TABLE FOR SUPERPHOSPHATES SHOWING % CaP_2O_6 (WITH CORRECTION) ON 2 GRM. SAMPLE.

Grms. $Mg_2P_2O_7$	·000 % CaP_2O_6	·001 % CaP_2O_6	·002 % CaP_2O_6	·003 % CaP_2O_6	·004 % CaP_2O_6	·005 % CaP_2O_6	·006 % CaP_2O_6	·007 % CaP_2O_6	·008 % CaP_2O_6	·009 % CaP_2O_6
·00	—	·50	·55	·59	·64	·68	·73	·77	·82	·86
1	·90	·94	·99	1·03	1·08	1·12	1·17	1.21	1·26	1·30
2	1·35	1·39	1·44	1·48	1·53	1·57	1·62	1·66	1·71	1·75
3	1·80	1·84	1·88	1·93	1·97	2·02	2·06	2·11	2·15	2·19
4	2·24	2·28	2·33	2·37	2·42	2·46	2·51	2·55	2·60	2·64
5	2·69	2·73	2·77	2·82	2·86	2·91	2·95	3·00	3·04	3·09
6	3·13	3·18	3·22	3·27	3·31	3·36	3·40	3·44	3·49	3·53
7	3·58	3·62	3·67	3·71	3·76	3·80	3.85	3·89	3·94	3·98
8	4·03	4·07	4·11	4·16	4·20	4·25	4·29	4·34	4·38	4·43
9	4·47	4·51	4·56	4·60	4·65	4·69	4·74	4·78	4·83	4·87
·10	4·92	4·96	5·01	5·05	5·09	5·14	5·18	5·23	5·27	5·32
1	5·36	5·40	5·45	5·50	5·54	5·59	5·63	5·67	5·72	5·76
2	5·81	5·85	5·90	5·94	5·99	6·03	6·08	6·12	6·17	6·21
3	6·25	6·30	6·34	6·39	6·43	6·48	6·52	6·57	6·61	6·66
4	6·70	6·74	6·79	6·83	6·88	6·92	6·97	7·01	7·06	7·10
5	7·15	7·19	7·24	7·28	7·32	7·37	7·41	7·46	7·51	7·55
6	7·59	7·64	7·68	7·73	7·77	7·82	7·86	7·91	7·95	7·99
7	8·04	8·08	8·13	8·17	8·22	8·26	8·31	8·35	8·40	8·44
8	8·49	8·53	8·57	8·62	8·66	8·71	8·75	8·80	8·84	8·89
9	8·93	8·97	9·02	9·06	9·11	9·15	9·20	9·24	9·29	9·33
·20	9·38	9·42	9·47	9·51	9·55	9·60	9·64	9·69	9·73	9·78
1	9·82	9·87	9·91	9·96	10·00	10·05	10·09	10·13	10·18	10·22
2	10·27	10·31	10·36	10·40	10·45	10·49	10·54	10·58	10·62	10·67
3	10·72	10·76	10·80	10·85	10·89	10·94	10·98	11·03	11·07	11·12
4	11·16	11·20	11·25	11·29	11·34	11·38	11·43	11·47	11·52	11·56
5	11·61	11·65	11·70	11·74	11·78	11·83	11·87	11·92	11·96	12·01
6	12·05	12·10	12·14	12·19	12·23	12·28	12·32	12·36	12·41	12·45
7	12.50	12·54	12·59	12·63	12·68	12·72	12·77	12·81	12·86	12·90
8	12·94	12·99	13·03	13·08	13·12	13·17	13·21	13·26	13·30	13·35
9	13·39	13·43	13·48	13·52	13·57	13·61	13·66	13·70	13·75	13·79
·30	13·84	13·88	13·93	13·97	14·01	14·06	14·10	14·15	14·19	14·24
1	14·28	14·33	14·37	14·42	14·46	14·51	14·55	14·59	14·64	14·68
2	14·73	14·77	14·82	14·86	14·91	14·95	15·00	15·04	15·09	15·13
3	15·17	15·22	15·26	15·31	15·35	15·40	15·44	15·49	15·53	15·58

% CaP_2O_6 (WITH CORRECTION).—*Continued.*

Grms. $Mg_2P_2O_7$	·000 % CaP_2O_6	·001 % CaP_2O_6	·002 % CaP_2O_6	·003 % CaP_2O_6	·004 % CaP_2O_6	·005 % CaP_2O_6	·006 % CaP_2O_6	·007 % CaP_2O_6	·008 % CaP_2O_6	·009 % CaP_2O_6
·34	15·62	15·67	15·71	15·75	15·80	15·84	15·89	15·93	15·98	16·02
5	16·07	16·11	16·16	16·20	16·24	16·29	16·33	16·38	16·42	16·47
6	16·51	16·56	16·60	16·65	16·69	16·74	16·78	16·82	16·87	16·91
7	16·96	17·00	17·05	17·09	17·14	17·18	17·23	17·27	17·32	17·36
8	17·40	17·45	17·49	17·54	17·58	17·63	17·67	17·72	17·76	17·81
9	17·85	17·89	17·94	17·98	18·03	18·07	18·12	18·16	18·21	18·25
·40	18·29	18·34	18·39	18·43	18·47	18·52	18·56	18·61	18·65	18·70
1	18·74	18·79	18·83	18·88	18·92	18·97	19·01	19·05	19·10	19·14
2	19·19	19·23	19·28	19·32	19·37	19·41	19·46	19·50	19·55	19·59
3	19·63	19·68	19·72	19·77	19·81	19·86	19·90	19·95	19·99	20·03
4	20·08	20·12	20·17	20·21	20·26	20·30	20·35	20·39	20·44	20·48
5	20·53	20·57	20·61	20·66	20·70	20·75	20·79	20·84	20·88	20·93
6	20·97	21·02	21·06	21·11	21·15	21·19	21·24	21·28	21·33	21·37
7	21·42	21·46	21·51	21·55	21·60	21·64	21·68	21·73	21·77	21·82
8	21·86	21·91	21·95	22·00	22·04	22·09	22·13	22·18	22·22	22·26
9	22·31	22·35	22·40	22·44	22·49	22·53	22·58	22·62	22·67	22·71
·50	22·76	22·80	22·84	22·89	22·93	22·98	23·02	23·07	23·11	23·16
1	23·20	23·25	23·29	23·34	23·38	23·42	23·47	23·51	23·56	23·60
2	23·65	23·69	23·74	23·78	23·83	23·87	23·92	23·96	24·00	24·05
3	24·09	24·14	24·18	24·23	24·27	24·32	24·36	24·41	24·45	24·49
4	24·54	24·58	24·63	24·67	24·72	24·76	24·81	24·85	24·90	24·94
5	24·99	25·03	25·07	25·12	25·16	25·21	25·26	25·30	25·34	25·39
6	25·43	25·48	25·52	25·57	25·61	25·65	25·70	25·74	25·79	25·83
7	25·88	25·92	25·97	26·01	26·06	26·10	26·15	26·19	26·23	26·28
8	26·32	26·37	26·41	26·46	26·50	26·55	26·59	26·64	26·68	26·72
9	26·77	26·81	26·86	26·90	26·95	26·99	27·04	27·08	27·13	27·17
·60	27·22	27·26	27·30	27·35	27·39	27·44	27·48	27·53	27·57	27·62
1	27·66	27·71	27·75	27·80	27·84	27·88	27·93	27·97	28·02	28·06
2	28·11	28·15	28·20	28·24	28·28	28·33	28·37	28·42	28·46	28·51
3	28·55	28·60	28·64	28·69	28·73	28·78	28·82	28·87	28·91	28·95
4	29·00	29·04	29·09	29·13	29·18	29·22	29·27	29·31	29·36	29·40

ADDITIONAL PER CENTS. FOR TENTHS OF A MILLIGRAMME.

Mgms.=	·0001	·0002	·0003	·0004	·0005	·0006	·0007	·0008	·0009
CaP_2O_6=	·044%	·089%	·134%	·178%	·223%	·267%	·312%	·357%	·401%

TABLE FOR PHOSPHATES, SHOWING % P_2O_5 ON 2 GRMS. SAMPLE (WITH CORRECTION)

Grms. $Mg_2P_2O_7$	·000 % P_2O_5	·001 % P_2O_5	·002 % P_2O_5	·003 % P_2O_5	·004 % P_2O_5	·005 % P_2O_5	·006 % P_2O_5	·007 % P_2O_5	·008 % P_2O_5	·009 % P_2O_5
·00	—	·36	·39	·42	·46	·49	·52	·55	·58	·62
1	·65	·68	·71	·74	·78	·81	·84	·87	·91	·94
2	·97	1·00	1·03	1·06	1·10	1·13	1·16	1·19	1·22	1·26
3	1·29	1·32	1·35	1·38	1·42	1·45	1·48	1·51	1·54	1·58
4	1·61	1·64	1·67	1·70	1·74	1·77	1·80	1·83	1·86	1·90
5	1·93	1·96	1·99	2·02	2·06	2·09	2·12	2·15	2·18	2·22
6	2·25	2·28	2·31	2·34	2·38	2·41	2·44	2·47	2·50	2·54
7	2·57	2·60	2·63	2·66	2·70	2·73	2·76	2·79	2·82	2·86
8	2·89	2·92	2·95	2·98	3·02	3·05	3·08	3·11	3·14	3·18
9	3·21	3·24	3·27	3·30	3·34	3·37	3·40	3·43	3·46	3·50
·10	3·53	3·56	3·59	3·62	3·66	3·69	3·72	3·75	3·78	3·82
1	3·85	3·88	3·91	3·94	3·98	4·01	4·04	4·07	4·10	4·14
2	4·17	4·20	4·23	4·26	4·30	4·33	4·36	4·39	4·42	4·46
3	4·49	4·52	4·55	4·58	4·62	4·65	4·68	4·71	4·74	4·78
4	4·81	4·84	4·87	4·90	4·94	4·97	5·00	5·03	5·06	5·10
5	5·13	5·16	5·19	5·22	5·26	5·29	5·32	5·35	5·38	5·42
6	5·45	5·48	5·51	5·54	5·58	5·61	5·64	5·67	5·70	5·74
7	5·77	5·80	5·83	5·86	5·90	5·93	5·96	5·99	6·02	6·06
8	6·09	6·12	6·15	6·18	6·22	6·25	6·28	6·31	6·34	6·38
9	6·41	6·44	6·47	6·50	6·54	6·57	6·60	6·63	6·66	6·70
·20	6·73	6·76	6·79	6·82	6·86	6·89	6·92	6·95	6·98	7·02
1	7·05	7·08	7·11	7·14	7·18	7·21	7·24	7·27	7·30	7·34
2	7·37	7·40	7·43	7·46	7·50	7·53	7·56	7·59	7·62	7·66
3	7·69	7·72	7·75	7·78	7·82	7·85	7·88	7·91	7·94	7·98
4	8·01	8·04	8·07	8·10	8·14	8·17	8·20	8·23	8·26	8·30
5	8·33	8·36	8·39	8·42	8·46	8·49	8·52	8·55	8·58	8·62
6	8·65	8·68	8·71	8·74	8·78	8·81	8·84	8·87	8·90	8·94

(To be continued).

Trade Notes.

THE COST OF TECHNICAL EDUCATION IN GERMANY.—The technical high school in Berlin costs £16,767. (£2,150. more than last year); that at Hanover, £10,186. In the former establishment *there are thirty-six teachers at about £325. salary.* The school at Aix is to cost £36,368. The total vote under this head asked for is £101,882., or £8,139. more than last year.

CHANGE OF ADDRESS.—Messrs. J. W. Coulston & Co. beg to inform their friends that necessity has compelled them to move, and they are now no longer at No. 140, Maiden-lane, but at No. 133, Front-street, New York.

THE CHEMISTS' EXHIBITION.—With reference to our last notice of this exhibition, we are requested to point out more emphatically that this year it is intended to pay more attention to the chemical and allied trades, as distinct from the pharmaceutical and branch trades, which have hitherto preponderated.

CAPE ASBESTOS COMPANY LIMITED.—The firm state that with reference to the fire at premises at Carlisle Avenue, where some of their workshops were situated, the execution of any work in hand as well as of later will not be affected, as they have at once made complete arrangements for carrying on the work as usual.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are very flat at 1s. 1d. for 90's and 1s. 2d. 50/90's. Carbolic acids are steady and unchanged. Solvent naphtha is easier at 1s. 5d., and crude is not worth more than 6½d. to 7d., probably the former quotation is nearest value. Grease oils lower at 50s. Pitch 19s. 6d. prompt f.o.b. East Coast; forward, 20s.

Sulphate of ammonia is weak in price, but figures are mostly nominal. Business is quiet in the face of the holiday interval. Nearest closing prompt values are:—Beckton, £8. 12s. 6d.; London outside makes, £8. 15s.; Liverpool, £8. 16s. 3d. to £8. 17s. 6d.; Hull, £8. 15s., and Leith £8. 17s. 6d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade demand is still only moderate on the whole. Caustic soda is rather in an easier position as regards supply, but slightly lower in price, nearest spot quotations being f.o b. Liverpool, 77%, £8. 5s.; 74%, £8; 70%, £7. 5s.; 60%, £6. 5s. nett, per ton. Alkali, 58% unchanged at £4., bags, makers' works. Bleaching powder is moving in fair quantity, but without improvement in price, at £6. to £6. 5s. per ton, hardwoods, f.o.b., and £5. 5s. softwoods, f.o.r. makers' works. Saltcake is in better request and higher in price at 19s. to 20s. bulk, f.o r. Chlorates remain depressed, though some makers are reducing output, and quotations are 3¾d. and 3¼d. per lb. respectively, for soda and potash. Sulphur is in good general demand at £4. 10s. per ton. Sulphate of copper has slightly improved during the week, and now stands at £16. 5s. f.o.b. For vitriol and muriatic acid there is a fair inquiry, and prices are unaltered. Acetate of lime: brown, steady at £5. 10s. to £5. 15s. c.i.f.; grey, £7. 10s. Acetic acid quiet and unchanged in value. Acetate of soda rather lower at £12. 5s. c.i.f. Acetate of lead firm at recent advance. Wood naphtha rather dearer. White powdered arsenic is irregular, at prices ranging from £19s. 5s. to £19. 10s. for spot delivery. Aniline oil and salt are dull, and prices are easier. Yellow prussiate of potash in good demand, and price firm at 6½d. per lb. Cyanide, 1s. 1d. per lb. Nitrate of soda 7s. 6d. per cwt. Sulphocyanides dull.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron steady: Scotch warrants closed at 46s. 2d.; Middlesbro', 40s. cash; and hematite, 49s. 6½d. Copper quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 18s. 9d. to £51. 3s. 9d. cash, and £51. 6s. 3d.. to £51. 13s. 3d. three months. Tin easier. Straits closed at £65. 2s. 6d. to £65. 12s. 6d. cash, and £65. 11s. 3d. to £66. 6s. 3d. three months; Australian, £65. 17s. 6d.; English ingots, £67. 15s. Lead slow: Spanish, £12. 15s.; English, £12. 17s. 6d. Silesian spelter, ordinary, £18. 12s. 6d. Nickel, 1s. 2½d. Antimony, £32. Quicksilver: First hands, £7. 1s. 2d.; second hands, £7. 0s. 6d. *Copper shares* quiet: Cape, $4\frac{11}{16}$ to $4\frac{13}{16}$; Copiapo, 2¼ to 2⅜; Libiola, 2⅝ to $2\frac{7}{8}$; Mason and Barry, $3\frac{7}{8}$ to 4⅛; Rio Tinto, $28\frac{3}{16}$ to 28⅝; Tharsis, 7¼ to 7½.

GLASGOW, WEDNESDAY.—Market steady, with a small business. Scotch done at 46s. 2d., to 46s. 2½d. cash; buyers, 46s. 2d. cash; sellers, ½d. higher. Cleveland, buyers, 40s. cash; sellers, 40s. 0½d. Cumberland hematite done at 49s. 6d. cash, and 49s. 9d. to 49s. 9½d. month; buyers, 49s. 6½d. cash; sellers, 49s. 7d. Middlesbrough hematite, buyers, 50s. 9d. cash; sellers, 52s. 3d.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is very quiet. Sales have been made in soft oils at £19. 2s. 6d. Olive is quiet without any prospect of change in prices. Linseed steady at 17s. to 17s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed firmly held at 15s. 3d. to 15s. 9d per cwt. for Liverpool refined. Castor oil is rather quiet. First pressure French has been mainly in demad for forward, spot sales being but moderate at 3¼d. Good seconds Calcutta 3¼d. to $3\frac{5}{16}$d. per lb. Tallow steady. Offerings small. Resin moving fairly well at 4s. 6d. for common; medium, 4s. 7½d. to 5s. 6d., and fine, 6s. to 7s. 6d. per cwt. Spirits of turpentine steady at 25s. per cwt. Petroleum, slow of sale, Russian, 4⅝d., and American, 5¼d. to 6½d. per gallon.

CAKES.—Rather steadier. American Western linseed on the spot in fair demand at £6. 2s. 6d. to £6. 7s. 6d., whilst Liverpool makes were still offering at £8. to £8. 10s. per ton, and were in moderately fair consumptive demand thereat. American decorticated cottonseed remained steady and without alteration in value at £5. 5s. 6d. to £5. 17s. 6d., according to quality, though rather a better feeling was noticeable thereat, and a moderate trade was concluded. Liverpool makes both of decorticated and undecorticated are held for previous rates, viz., £6. 5s. to £6. 10s. for the former, and £3. 18s 9d. to £4. 12s. 6d. per ton for the latter, according to brand, and move off to a moderately fair extent. Prime quality Egyptian on the spot are still offered at £3. 16s. 3d. per ton, and have a steady market thereat.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The position in the oil trade appears to be somemhat easier, linseed oil having receded about 5s. per ton. Olive oil also promises to be somewhat scarce, and a good deal appears to be made of the fact of the British Government making inquiries for 2,000 tons in the markets abroad; whether or no this is more than usual, report does not say. The stocks of seed in Hull for month ending March were—Linseed 2,393 qrs., against 11,516 qrs. in February; rapeseed, 2,640 qrs., against 7,380 qrs.; cottonseed, 1,951 tons, against 2,302 tons; The imports of seed during the month have been—Linseed, 50,748 qrs., against 10,137 qrs. in February; rapeseed, 2,910 qrs., against 5,813 qrs.; cottonseed, 14,382 tons, against 32,713 tons. The present quotation for linseed oil is 14s. 10½d. spot, naked; May/August 15s. 3d., the same being the quotation to December; boiled and refined £1. to £1. 10s. per ton extra. Refined cottonseed oil, 13s. 3d. sellers, spot naked; May/January, 13s. 7½d.; filtered refined, £1. to £1. 10s. per ton extra; barrels £1. 10s, and ordinary casks, £1. per ton extra. Castor oil extracted here is a trifle easier, with quotations from 3¼d. per lb. Olive oil soap, in sympathy with olive oil, has advanced about 5s. per ton., and makers promise further advances later. Rosins continue a firm market, from 4s. 10½d. to 7s. 3d., according to grade, spot delivery. Cod oil, £15. 10s. to £18. per ton. Oleines firm and unchanged at £17. 10s. to £20. 15s. per ton. Brown grease, £7. to £9. per ton.

CAKES.—The markets continue steady. Linseed cakes steady, 95% pure, £8. to £8. 2s. 6d. per ton. Oilcakes (linseed), £6. 15s. to £6. 17s. 6d.; Russians, £7. 7s. 6d. to £7. 12s. 6d. per ton. Cotton cakes firm. Best makes, £4. to £4. 1s. 3d.; seconds, £3. 17s. 6d. to £3. 18s. 9d. Decorticated cakes, £6. per ton; meal, £5. 15s.; rape cakes, Black Sea, £4. 3s. 9d. per ton.

PAINTS.—Business continues brisk. White and red leads firm. Paints from £9. per ton. Dry colours, £4. to £8. per ton. Paint remover, 25s. per cwt. Disinfecting powder, 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. per ton. Black varnish, £5 per ton in barrels, free.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Sulphate of ammonia is at any rate no worse off than it was a week ago, and accordingly the figures for spot Leith undergo no alteration. On Saturday last, one maker in Glasgow got £9. for a parcel, but it was a small lot, and quantities on offer could not readily get that. There is nothing doing on the forward basis. Nitrate of soda is rather firmer. With regard to the other chemicals, prices generally are maintained, but there is an exception in sulphate of copper, which is idle, and obtainable for less money. Ordinary heavy chemicals are now getting into good turn over in connection with the early spring shipments for Baltic and Sound ports. Prices of these are fairly well held. In mineral oils

and solid paraffins, late values are maintained, but there is now but small deliverance for burning oil, the season being about done. Two or three of the mineral oil companies are at present balancing books as at the close of the financial year, and results will be announced soon.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 7s. 6d., 60/62° £6. 7s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s. to 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £8. 18s. 9d. to £9. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 2s. 6d. to £16. 5s., less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 11,000 bags beet.

TYNE CHEMICAL REPORT.

Tuesday.

The chemical market is still quiet, and trade generally disappointing. Caustic 76/77% is quoted at £8. 10s. and £8. 15s. per ton; 70%, £7. 10s. per ton. Soda crystals, £2. 12s. 6d. per ton gross weight, locally. Sulphur scarce, at £5 per ton.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda. £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 6d. per ton, f.o.b. Tees.

COALS.—Market here is very unsettled, and there is considerable inquiry for coals outside the ordinary routine. High prices are asked, though most of the collieries have withdrawn offers, and will only sell occasional cargoes, hence the quotations vary with offer and with the news from South Wales. Prices current to-day are about as under:—Best Northumbrian steam, 10s. 6d. to 11s. 6d. per ton; second qualities. 9s. 6d. to 10s. 6d. per ton; small steam, 5s. 6d. to 6s. per ton; gas coals, 10s. to 11s. per ton; coke, 17s. to 22s. per ton.

New Companies.

Chance and Hunt, Ltd.—Capital £280,000. in £10. shares This company has been formed to acquire and carry on the businesses of alkali makers and chemical manufacturers carried on by (1) the Oldbury Alkali Co., Ltd., at Oldbury, Worcs, and (2) W. Hunt, E. Hunt, and E. J. Hunt, at Leabrook, Wednesbury, Staffs., as "William Hunt and Sons," and to adopt certain agreements. The subscribers to the memorandum of association are: H. Chance, J P., Thornbridge, Leamington; A. M. Chance, J.P., Lawnside, Edgbaston, Birmingham; G. F. Chance, M.A., Clent Grove, near Stourbridge; W. Hunt, Hampton House, Wednesbury, chemical manufacturer; E. Hunt, Portland House, Wednesbury, chemical manufacturer; E. J. Hunt, Myvod House, Wednesbury, chemical manufacturer; M. Chance, jr., M.A., Lawnside, Edgbaston, Birmingham.

Quicksilver Mines (California, U.S.A.) Ltd.—Capital £150,000. in £1. shares. This company has been formed to adopt an agreement with W. Harvie, and to acquire, own, and work certain mines or mineral properties in Napa County, California, U.S.A. The subscribers to the memorandum of association are:—G. S. Brander, 8, Kilmaurs Terrace, Edinburgh, merchant; C. P. Clifton, 127, Hemingford-road, Barnsbury, N., clerk; C. A. Prevost, 17, Fopstone-road, S.W., gent; W. Morgan, 47, Finsbury Circus, E.C., gent; J. W. Savage, 10, Hafer-road, New Wandsworth, gent; C. H. Austin, 5, Fenchurch-street, E.C., clerk; W. Spanswick, 5, Fenchurch-street, E.C., secretary.

Rubber Estates of Para, Ltd.—Capital £375,000. in £1. shares. This company has been formed to acquire, develop, turn to account and deal with certain rubber producing properties situated in the State of Para, Brazil, and to adopt an agreement with the Anglo-African Gold Properties, Ltd. The subscribers to the memorandum of association are:—W. G. Gillingham, Finsbury House, Blomfield-st., E.C., manager; J. E. Preston, 8, Burton-road, Brixton, engineer; W. Davies, 8, Burton-road, Brixton, mine superintendent; T. T. Curtis, 17, Beulah-road, E., Thornton Heath, cashier; A. H. Woosnam, 23, Ada-road, Camberwell, clerk; H. F. Adams, 10, Brook-road, Highgate, N., agent; C. T. Woosnam, 54, Ansdell-road, Peckham, S.E., clerk.

Stibnite Synd., Ltd.—Capital £60,000. in £5. shares. This company has been formed to adopt an agreement with J. C. Butterfield, and to acquire, own and work certain processes for the extraction of gold, silver, antimony, copper, lead, zinc and other metals from their ores. The subscribers to the memorandum of asociation are:—E. L. Oppermann, 2, Wynyatt-street, E.C., engineer; G. H. Lloyd, 7, St. Mildred's Ct., E.C., engineer; P. O. Rogers, 34, Old Jewry, E.C., solicitor; W. Hollick, Ellison-road, Streatham, gent; C. R. Lidgery, 13, Victoria-street, S.W., assayer; W. Godden, 34, Old Jewry, E.C., solicitor; W. R. Palgrave, 46, Holmdale-road, W. Hampstead, solicitor.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 26th.

Acetic Acid—

Holland,	140 pks.	F. J. Putz & Co.
,,	50	A. & M. Zimmermann

Acetone—

France,	206 pks.	E. J. Catlin
,,	70	F. Bryant

Acids—

Holland,	59 pks.	Little & Johnston

Alkali—

Belgium,	400 c.	C. Lamb & Co.
France,	45	J. Barber & Co
,,	42	Spies, Brs. & Co.
U. States,	145	Prop. Hay's Wf.

Ammonium Bromide—

Germany	£105	R. W. Greeff & Co.

Ammonium Chloride—

Holland,	£60	H. Lorenz

Antimony Ore—

Spain,	10 t.	Novelli & Co.

Arsenic—

Portugal,	87 pks.	Coverley & Westray

Asphaltum—

France,	50 pks.	Major & Field

Asbestos—

Italy,	£6	W. H. Mitchell
Germany,	65	Craven & Co
Italy,	868	Cape Asbestos Co.
,,	5	Imperial Asbestos Co.

Barium Chloride—

Holland,	£90	Petri Brs.

Barytes—

Germany,	123 pks.	Burrell & Co.
,,	20	Butler's Wf., Ld.
,,	55	W. Harrison & Co.
Belgium,	298	J. L. Lyon & Co.
Germany,	100	Wilkinson, Heywood & Co.
Belgium,	89	W. Harrison & Co.

Bleaching Powder—

Holland,	£110	J. M. Steel & Co.
Belgium,	110	Blackwell & Co.

Bleaching Soda—

Holland,	£68	H. Lambert
Germany,	200	,,

Bone Meal—

E. Indies,	200 t.	Fox, Roy & Co.
,,	93	A. Hunter & Co.
,,	18	Odams Chem. Manure Co.
,,	25	Hore & Scrivener

Camphor—

Germany,	4 pks.	L. & I. D. Jt. Co.
,,	1	Butler's Wf., Ld.
,,	100	R. Warner & Co.
Japan,	55	Lewis & Peat
,,	386	R. Warner & Co.
,,	66	Lewis & Peat

Caoutchouc—

Zanzibar,	3 c.	Clarke & Smith
,,	20	L. & I. D. Jt. Co.
Straits,	212	Butler's Wf., Ld.
U. States,	1	American Trading Co.
,,	3	Lewis & Peat
Straits,	143	Huttenbach & Co.
Germany,	115	Butler's Wf., Ld.
Holland,	5	W. M. Smith & Sons
Germany,	7	Wallace Brs.
P. E. Africa,	21	L. & I. D. Jt. Co.
Straits,	120	W. Pope & Co.
B. Honduras,	2	Scrutton Sons & Co.
U. States,	1	Carter Paterson & Co.
Madagascar,	34	W. A. Collins

Carbolic Acid—

Germany,	50 pks.	J. G. Back

Castor Oil—

France,	12 brls.	J. Greig
Austria,	15 cks.	M. D. Co.
France,	40	C. & E. Morton
,,	13 pks.	F. Boehm

Caustic Potash—

Germany,	35 pks.	J. M. Steel & Co.
France,	20	W. E. Cole

Chemicals (*otherwise undescribed*)

Holland,	£5	J. Barber & Co.
France,	56	Mory & Co.
Belgium,	25	T. Palmer
Holland,	120	Becker and Wagner
,,	6	J. Owen
Belgium,	247	T. H. Lee
Belgium,	10	John Cockerill Line
Germany,	4	Butler's Wf., Ld.
,,	85	L. & I. D. Jt. Co.
,,	28	Blondeau et Cie
,,	702	A. & M. Zimmermann
Holland,	35	R. W. Greeff & Co.
,,	35	63 pks. T. H. Lee

Cream of Tartar—

Melbourne,	2 pks.	Marshall & French
France,	2	B. & E. Wf. Co.
Spain,	10	,,

,,	4	W. C. Bacon & Co.
,,	4	Finsler & Wheeler
France,	1	Fellows, Morton & Co
,,	5	M. Ashby, Ltd.
,,	15	C. F. Gerhardt
,,	22	W. C. Bacon & Co.
,,	4	Blackmore, Leconte & Co.

Dyestuffs—

Aniline

Germany,	6 pks.	Butler's Wf., Ld.

Annatto

France,	1 pk.	B & F. Wf Co.

Cochineal

Canaries,	14 pks	L. & I. D. Jt Co.
,,	4	W. M Smith & Sons
,,	10	Campion & Co., Ld.
,,	29	W. H. Cole & Co.

Cutch

Straits,	100 pks.	Hoare, Wilson & Co.
,,	888	J. Swire & Sons

Divi Divi

E. Indies,	25 pks.	Flack, Chandler & Co

Extracts

U States,	7 pks.	Skilbeck Brs.
Belgium,	20	T. Palmer
France,	160	L. J. Levinstein & Sons
Canada,	80	Boutcher, Mortimore & Co.
,,	40	Furness, Withy & Co.

Gambier

Straits,	516 pks.	Prop. Hay's Wf.
,,	467	Beresford & Co.
,,	351	L. & I. D. Jt Co.
,,	455	P. & O. Co.

Indigo

E. Indies,	136 chts.	J. W. Cook & Co.,
,,	14	J. Kenyon & Sons
,,	262 4 cs.	L. & I. D. Jt. Co.
,,	33	P. Macfadyen & Co.
,,	82	H J. Perlbach & Co.
,,	7	F. Huth & Co.
,,	81	Parsons & Keith
,,	287	W. J. & H. Thompson
,,	33	E. Bower & Co.
Holland,	4	J. Forsey
E. Indies,	41	W. Balchin, Ld
,,	14	Croysdale & Co
,,	9	Walker, Munsie & Co.
,,	6	Dipnall & Co
,,	160 pks.	L. & T. Light C. & D. Co
,,	91	A. B. Curtis & Co.
,,	25	P. & O. Co.
,,	34	R. Von Glehn & Sons
Belgium,	1 cs.	John Cockerill Line

Myrabolams

E Indies,	620 pks.	Scrutton, Ld.
,,	220	L. & I. D. Jt. Co.
,,	220	Dalton & Young
,,	10	Ralli Brs.

Saffron

Spain,	2 pks.	Richardson, Spence & Co.

Shumac

Italy,	100 pks.	H Johnson & Sons
,,	100	J. E. Scott
,,	250	Capt. Nash

Tanners' Bark

E. Indies,	1 t.	L. & I. D. Jt. Co.
Adelaide,	11	Leach & Co.
,,	18	Brown & Elmslie

Valonia

A. Turkey,	170 t.	Boutcher, Mortimore, & Co.
,,	102	Hicks, Nash, & Co.
,,	155	A. & W. Nesbitt
,,	165	F. Claydon & Co.

Dyestuffs *(otherwise undes.)*—

H. Kong,	16 pks.	R. G. Hall & Co.

Farina—

Holland,	100	J. Barber & Co.
Belgium,	2	T. H Lee & Co
Germany	40	M. D. Co.

Glucose—

U. States,	50 pks.	310 c	Wilson & Furness Leyland Line
,,	202	200 c.	H. Johnson & Sons
,,	50	290	S. E. Rly Co.
,,	1,203	2,098	R. G Hall & Co.
,,	50	289	A. E. Piggott
,,	100	600	E. & T. Pink
,,	100	600	Lipton Ltd.
,,	100	578	Deering & Robottom
,,	50	291	Vokins & Co.
,,	2,900	2,900	L. & I. D. Jt. Co.
Germany,	50	492	B. S. S. Co.
U. States,	500	500	Barrett & Co.
,,	100	570	Elkan & Co.
,,	350	2,100	W. Grose & Co.
,,	200	1,071	Ohlenschlager Brs.
Germany,	20	163	M. D. Co.
U. States,	48	308	Lon. & Til. Ltge. Co.
,,	200	1,233	Seaward Brs.

Glue—

France,	£80	J. Harrison
U. S.	36	F. V. Smythe & Co.
Belgium,	640	J. Barber & Co.
France,	253	Duche & Sons
Germany,	160	W. Harrison & Co.
Holland,	9	A. G. Robinson & Co.
,,	60	J. Barber & Co.
Belgium,	10	S H. Lee
France,	17	Mory & Co.
Germany,	20	H. Lambert
Holland,	100	T. H. Lee
France,	100	W. G. Davies & Sons
Germany,	600	Deering & Robottom
U. S.,	28	Armour & Co.

Kainit—

Germany,	76 t.	F. W. Berk & Co., Ltd.

Lamp Black—

U States,	70 pks.	L. & I. D. Jt. Co.
,,	50	J. Melvin
,,	100	M. Ashby, Ltd.

Lithopone—

Germany,	£70	R. W. Greeff & Co.
Holland,	20 pks.	Taylor Brs.

Manure—

France,	50 t.	Burnett Brs. & Sons

Methyl Alcohol—

France,	20 dms.	E. J. Catlin
Sweden,	9	Lister & Biggs
Spain,	6	,,
Germany,	9	S. Norrenburg & Co
U. States,	20	H. Wallace & Co
France,	13	J. Harrison
Germany,	24	T. Jones & Co.
,,	9	H. Lambert
France,	20	F. Bryant

Mica—

U. States,	£12	Barclay, Perkins, & Co.
———,	150	———
E. Indies,	5	W. Balchin, Ltd.

Molasses—

U. States,	200 brls.	1,200 c	Wilson & Furness Leyland Line
,,	50	300 c.	R. G. Hall & Co.
,,	50	282	Ohlenschlager Brs.

Ochre—

France,	39 pks.	J. Flach
,,	30	Ellam, Jones, & Co.
,,	377	W. Harrison & Co.
Spain,	37	W. Shimmon
Holland,	21	Phillipps & Graves

Oxalic Acid—

Holland,	40 pks.	Hernu, Peron, & Co.

Phosphate of Lime—

France,	210 t.	A Hunter & Co.
Belgium,	50	C. A. & H. Nichols
,,	180	West & Penrose

Phosphate Rock—

U. States,	258 t.	A. Hunter & Co.

Pitch—

Germany,	100 cks.	Poth Hille, & Co

Plumbago—

Ceylon,	170 brls.	Doulton & Co.
Italy,	80 bgs.	Beck & Pollitzer
U. States,	10 brls.	Lunham & Moore
Ceylon,	10	Beresford & Co.
,,	73	G. R. Haller, Ltd.
,,	261	Morgan Crucible Co.
Belgium,	8 cks.	J. Forsey

Potassium Bichromate—

Germany,	£63	H. Lambert

Potassium Carbonate—

Holland,	150 c.	Petri Brs.
Belgium,	60	A. J. Luke & Co.
France.	40	J A. Reid

Potassium Oxymuriate—

Sweden,	100 pks.	G. Boor & Co.

Potassium Permanganate—

Belgium,	£40	R. W. Greeff & Co.

Pumice Stone—

Messina,	5 t.	Capt. Forsling
,,	1	A. Odling & Sons

Pyrites—

Spain,	955 t.	Anderson, Anderson, & Co.
,,	1,932	C. Tennant, Sons, & Co.

Quicksilver—

Spain,	8 btls.	F. Dupré & Co.
,,	9,996 flsks.	N. M. Rothschild & Son

Rosin—

U. States,	200 brls.	Suter, Hartmann, & Co.

Rosin Oil—

France,	100 pks.	Fleming's Oil & Chemical Co.

Saltpetre—

Bengal,	583 bgs.	Perkins & Homer
E. Indies,	657	Lucas & Spencer's Wf.
,,	295	C. Wimble & Co.

Sodium Acetate—

France,	301 pks.	J. Harrison
Holland,	21	H. Lorenz

Sodium Bicarbonate—

Holland,	20 c.	A. & M. Zimmermann

Sodium Hydrate—

Germany,	£28	Deering & Robottom

Sodium Hyposulphite—

Holland,	£36	R. W. Greeff & Co.

Sodium Nitrate—

Chili,	20,298 bgs.	W. Montgomery & Co.
,,	14,010	Anglo-Contl. Guano Works

Starch—

Holland,	38 cs.	Phillipps & Graves
,,	78 pks.	,,
Belgium,	260	T. H. Lee
,,	110	Lehmann & Co.
Germany,	17	Andorsen, Becker, & Co.
,,	810	Horne & Co.
,,	12	Phillipps & Graves
Holland,	90	Hernu, Peron, & Co.
Germany,	380	Seaward Brs., Ltd.
Belgium,	40	Taylor Brs.
,,	80	Becker & Wagner
Germany,	6 cks.	Butler's Wf., Ltd.
France,	5 cs.	L. & I. D. Jt. Co.
Holland,	448 pks.	Little & Johnston
,,	80	Robinson, Roberts, & Co.
Belgium,	38	F. Claydon & Co.
,,	200	J. Harrison
,,	210	Prprs. Dowgate Dk.

Stearine—

Holland,	14 cks.	Robinson, Roberts, & Co.
Melbourne,	5	Jennings & Co.
,,	74	Phillipps & Graves
France,	14	H. Hill & Sons
Belgium,	442 bgs.	,,

Sulphur—

Spain,	2,000 t.	Union L. Co., Ltd.
,,	100	J. Forster
Italy,	30	G. Boor & Co.
,,	10	South Devon Wf. Co., Ltd.
,,	45	Wilson, Slimmon
,,	10	Elkan & Co.
,,	60	A. B. Curtis & Co.

Sulphur Chloride—

Holland,	£28	Typke & King

Tar—

Germany,	100 brls.	Linck, Moeller, & Co.
N. Russia,	50	,,

Tartaric Acid—

Holland,	28 pks.	B. & F. Wf Co.
,,	4	Kirkpatrick, Barr, & Co.

Tartars—

Italy.	23 pks.	Howard & Sons

Ultramarine—

Holland,	3 pks.	Taylor Brs.
Germany,	33	Steinhoff, Sons, & Co.
Holland,	4	H. Johnson & Sons

Varnish—

Germany,	4 pks.	L. & N.-W. Rly.
U. States.	63	Lunham & Moore
Germany,	40	Butler's Wf., Ltd

Waste Salt—

Belgium,	75 t.	J. G. Back
Germany,	50	Humphery & Co.

White Lead—

Holland,	71 pks.	Randall Brs.
,,	118	T. & W. Farmiloe, Ltd.
Belgium,	46	,,
,,	36	J. L Lyon & Co.
Germany,	50	D. Storer & Sons

Wood Pulp—

Sweden,	300 pks.	Alsing & Co
Holland,	48	C. S. Lovell
Sweden,	320	W. G. Taylor & Co.
,,	210	H. Raby & Mather
Portugal,	500	Caima Wood Pulp Co.
,,	250	Page, Son, & East
Belgium,	80	W. G. Taylor & Co.
,,	2,904	P. Heydemann
Germany,	75	H. La
Sweden,	400	Hummel &
Norway,	595	W. G. Taylor &
Holland,	74	Henderson, C &
Portugal,	200	Union Ltge. Co.,
Norway,	80	Becker &
,,	4,490	London Paper Mill
Canada,	3,271	W. G. Taylor &
Germany,	2,000	Tough & Hend
,,	80	T. H

Zinc Oxide—

Holland,	50 pks.	Burrell &
,,	58	J. P. M
,,	100	Prprs. Dowgate
,,	10	M. Ashby.
Germany,	140	,,

Zinc Sulphate—

Germany,	£62	Burgoyne &

LIVERPOOL

Week ending March 24th.

Acetate of Lime—

New York,	3,280 bgs.	
Philadelphia,	794	

Antimony—

Mollendo,	221 sks.	Kleinwort, &

Antipyrine—

Rotterdam,	1 cs.	

Arsenic—

Stettin,	20 cks.	

Barytes—

Antwerp,	150 bgs.	19 cks.
Rotterdam,	40	63

Benzine—

New York,	500 brls.	

Bone Black—

Philadelphia,	30 brls.	

Borax—

Mollendo,	640 sks.	B. Groenwe
,,	2,010	
Valparaiso,	2,150	

Castor Oil—

Calcutta,	385 cs.	
,,	572	Ralli B
Leghorn,	5	

Colours—

Antwerp,	3 cks.	10 cs.

Cottonseed Oil—

New York.	50 brls.	
Newport News,	112	

Cream of Tartar—

Bordeaux,	34 cks.	
Oporto,	3	
Barcelona,	15	5 bts.

Dyestuffs—

Algarrobilla

Valparaiso,	200 sks.	J. Caro & C
,,	1,500	Schintz & C
,,	279	A. Yeoma
,,	100	

Argols

Bordeaux,	5 cks.	

Cutch

Rangoon,	1,525 bxs.	

Fustic

Trieste,	10 t.	Evans & Woodhe
Cartagena,	646 pcs.	G. H. Mul

Gambier

Singapore,	1,067 bls.	666 bgs

Indigo

Calcutta,	501 chts.	

Logwood

Belize,	112 t	P. Lechie & C
Laguna De Terminos,	14	D. Midgley & Sa

Myrabolams

Calcutta,	1,000 pks.	

Orchella

Lisbon,	1 bl.	3 bgs.

Saffron

Valencia,	3 cs.	

Shumac

Palermo,	100 bgs.	J. Kitchin, L
,,	800	200 bls.

Valonia

Patras,	700 bgs.	
Smyrna,	1,346	45 t.

Farina—

Stettin,	20 bgs.	W. Sh

Glucose—

New York,	100 brls.	

Glue—

Rotterdam,	100 bgs.	10 bls.
Fiume,	100	Skinhoff, Son
,,	100	Thlee & San
Boston,	10 brls.	25 cts.
Hamburg,	20 bgs.	

Infusorial Earth—
Hamburg, 202 bgs.
Iodine—
Valparaiso, 10 brls. A. Gibbs & Co.
Lamp Black—
New York, 20 brls. B. V. Vickers & Sons
" 25 10 cs.
Lead Acetate—
Hamburg, 4 cks.
Limestone—
Antwerp, 2 cs. 3 crts.
Magnesite—
Hamburg, 20 bgs.
Manganese Ore—
Bordeaux, 344 t. 10 c. R. J. Francis & C.
Molasses—
Alexandria, 1,200 brls.
Naphtha—
New York, 5,561 brls.
Paint—
Rotterdam, 1 bx.
Boston, 50 cs.
Hamburg, 20 dms.
Paraffin Scale—
New York, 500 cs. 415 brls.
Phosphate Rock—
Brunswick, Ga., 1,099 t.
Pumice Stone—
Messina, 20 cs. 3 bgs.
Pyrites—
Huelva, 2,379 t. Matheson & Co.
Rosin—
New York, 19 brls.
Saltpetre—
Calcutta, 140 bgs.
Hamburg, 10 35 kgs. 6 cks.
Soap—
Bari, 102 cs.
Lagos, 3 brls.
Smyrna, 284 bxs.
Rotterdam, 5
Norfolk, 500
Soapstone—
Genoa, 250 bgs. Anglo-Italian Talc Co.
" 200
Soda—
Copenhagen, 1 ck. R. Singlehurst & Co.
Sodium Silicate—
Philadelphia, 1 brl. J. Nichols
Starch—
New York, 298 bgs.
Antwerp, 50 cs. J. T. Fletcher & Co.
Rotterdam, 240
Stearine—
Rotterdam, 3 cks.
Strontium Nitrate—
San Francisco, 50 kgs. Balfour Williamson
Sulphur—
Naples, 27 brls 30 cks.
Catania, 184 120 bgs.
Tallow—
New York, 160 hds. 56 tcs.
Portland, Me., 90 brls.
Boston, 250 300
Halifax, 487
Philadelphia, 250
Tartaric Acid—
Rotterdam, 2 cks.
Treacle—
Philadelphia, 75 brls.
Ultramarine—
Rotterdam, 20 cks.
Varnish—
New York, 2 hf.-cks. Walker, Carver, & Co., Ld.
" 6 W. A. Warren
Waste Salt—
Hamburg, 17 cks.
White Lead—
Rotterdam, 143 cks.
Wood Pulp—
Portland, Me., 448 bls. E F. Callister & Son
Antwerp, 250
Copenhagen, 100 Johansen & Jorgensen
Zinc Oxide—
Antwerp, 137 brls.
Zinc White—
Rotterdam 50 cks.
Stettin, 20.

MANCHESTER.

Week ending March 26th.

Albumen—
Hamburg, 1 ck.
Alizarine—
Rotterdam, 47 cks.
Ammonium Chloride—
Rotterdam, 4 cks.
Aniline Salts—
Rotterdam, 5 cks.
Barytes—
Antwerp, 20 bgs
Hamburg, { 50 / 35 cks.
Rotterdam, 18
Bone Ash—
Rio Grande Do Sul, 190 t. Robinson & Hadwen
Chemicals *(otherwise undescribed)*
Hamburg, 8 cks.
Rotterdam, 9
Colours—
Rotterdam, { 80 cks. 45 cs. 6 bxs. / 33 brls. 12 btls.
Farina—
Rotterdam, 500 bgs.
" 1,000 N. W. Jackson
Hamburg, 100
Glucose—
Rotterdam, 4 cks.
Glue—
Antwerp, 47 bls.
Rotterdam, 60 bgs.
Limestone—
Antwerp, 2 crts. 13 cs.
Ghent, 1
Litharge—
Hamburg, 20 cks.
Lithopone—
Hamburg, 2 cks.
Paint—
Hamburg, 15 cks. 40 dms.
Pitch—
Rotterdam, 9 cks.
Potash—
Antwerp, 7 cks.
Shumac—
Palermo, 225 bgs. 200 bls.
Starch—
Antwerp, 240 cs.
Rotterdam, 50
Stearine—
Antwerp, 19 bgs.
Talc—
Cette, 800 bgs.
Tallow—
Hamburg, 75 tcs.
Tannic Acid—
Hamburg, 5 cks. 2 cs.
Tartaric Acid—
Rotterdam, 33 cks. 30 pks.
Treacle—
Hamburg, 4 cs.
Ultramarine—
Hamburg, 4 pks.
Rotterdam, 4 cks.
Waste Salt—
Hamburg, 50 bgs.
White Lead—
Antwerp, 8 cks.
Wood Pulp
Copenhagen, 160 bls.
Gothenburg, 1,338
Rotterdam, 18 pks
Drontheim, 2,008 W. Gallagher & Son
" 2,856 A. Wertheim & Co.
Zinc Ashes—
Antwerp, 15 brls.
Zinc Oxide—
Antwerp, 101 brls.
Hamburg, 10 cks.

HULL.

Week ending March 26th.

Acetic Acid—
Rotterdam, 33 blns. W. & C. L. Ringrose
Acids—
Bari, 20 cks. Wilson, Sons, & Co., Ld.
Ghent, 7 "
Alum—
Hamburg, 15 cks. Wilson, Sons, & Co., Ld.
Antimony Salts—
Rotterdam, 2 cks. W. & C L. Ringrose
Asbestos—
Hamburg, 13 bls. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 37 cks. H. F. Pudsey
Bremen, 23
" 44 Veltmann & Co.
Rotterdam, 66 W. & C. L. Ringrose
Chemicals *(otherwise undescribed)*
Danzig, 11 cks.
Bremen, 4 cs. J. Pyefinch & Co.
1 kg.
Antwerp, 25 dms. Wilson, Sons, & Co., Ld.
Colours—
Antwerp, 2 cks. Wilson, Sons, & Co., Ld.
7 pks.
" 2
Rotterdam, 1 ck. Hutchinson & Son
Danzig, 10 Wilson, Sons, & Co., Ld.
" 11
Ghent, 27 "
Hamburg, 3
" 3 "
Dunkirk, 1 cs. "
Rotterdam, 76 15 W. & C. L.
8 brls. 63 pks. Ringrose
Dyestuffs—
Alizarine
Rotterdam, 15 brls. W. & C. L. Ringrose
Aniline Colours
Hamburg, 4 cks. Bailey & Leetham, Ld.
Indigo
Hamburg, 3 cs. Wilson, Sons, & Co., Ld
Logwood
Hamburg, 70 bgs. Wilson, Sons, & Co., Ld.
Shumac
Trieste, 43 bgs Wilson, Sons, & Co., Ld.
Palermo, 927 "
" 1,385
Valonia
Smyrna, 268 bgs Wilson, Sons, & Co., Ld
Farina—
Stettin, 150 bgs. Wilson, Sons, & Co., Ld
Harlingen, 250 bls. Hutchinson & Son
" 200 W. & C. L. Ringrose
Hamburg, 200 bgs. Wilson, Sons, & Co., Ld.
Glucose—
Rotterdam, 40 bgs. Hutchinson & Son
New York, 99 brls. Wilson, Sons, & Co., Ld.
" 100
Glue—
Fiume, 100 bgs. Wilson, Sons, & Co., Ld
Rouen, 20 Rawson & Robinson
4 cks.
Hamburg, 677 bgs. Wilson, Sons, & Co., Ld.
Lithopone—
Rotterdam, 40 cks. Hutchinson & Son
Ochre—
Rouen, 10 cks. Rawson & Robinson
Paint—
Harlingen, 25 tins W. & C. L. Ringrose
New York, 158 cs. Wilson, Sons, & Co., Ld.
Phosphate—
Ghent, 1,000 bgs. Wilson, Sons, & Co., Ld.
Potash—
Dunkirk, 6 dms. Wilson, Sons, & Co., Ld.
Pumice Stone—
Messina, 60 pks. Wilson, Sons, & Co., Ld.
Rosin—
Amsterdam, 28 cks. Hutchinson & Son
Salt—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.
Soap—
New York, 1 pk. Wilson, Sons, & Co., Ld.
Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Ghent, 200 Wilson, Sons, & Co., Ld.
Hamburg, 155 "
Soda Crystals—
Rouen, 3 cks. Rawson & Robinson
Starch—
Amsterdam, 160 bxs. Hutchinson & Son
20 cks.
Bremen, 1,288 pks. Veltmann & Co.
141 cs.
Ghent, 174 Wilson Sons, & Co., Ld
Rotterdam, 421 pks. Hutchinson & Son
Antwerp, 232 cs. Wilson, Sons, & Co., Ld.
" 10
Sulphur—
Danzig, 1 bg. Wilson, Sons, & Co., Ld.
Tallow—
New York, 60 brls. Wilson, Sons, & Co., Ld.
Dunkirk, 196 cks. "
Tartaric Acid—
Rotterdam, 6 cks. Hutchinson & Son
Treacle—
New York, 225 brls. Wilson, Sons, & Co., Ld.
" 250
Turpentine—
Libau, 10 cks. Wilson, Sons, & Co., Ld.
" 53
Ultramarine—
Bremen, 10 cks.
Rotterdam, 4 W. & C. L. Ringrose
White Lead—
Rotterdam, 20 cks. Hutchinson & Son
Amsterdam, 10 "
" 14 W. & C. L. Ringrose
Antwerp, 26 Bailey & Leetham, Ld
Wood Pulp—
Hamburg, 80 pks. Bailey & Leetham, Ld.
" 25 bls. Wilson, Sons, & Co., Ld.
Hango, 530 J. Good & Sons
Zinc Ashes—
Antwerp, 10 cks. Bailey & Leetham, Ld.
Zinc Oxide—
Rotterdam, 20 cks. W & C L. Ringrose

GLASGOW.

Week ending March 31st.

Acetic Acid—
Rotterdam, 8 cks. J. Rankine & Son
10 carboys
Alumina Sulphate—
Rotterdam, 30 cks. J. Rankine & Son
84 bgs.
Antimony Sulphate—
Hamburg, 1 ck.
Asbestos—
New York, 400 bgs.
Barium Sulphate—
Antwerp, 200 bgs.
Barytes—
Rotterdam, 44 cks. J. Rankine & Son
49 pks.
Bleaching Powder—
Rotterdam, 45 cks. J. Rankine & Son
Borate of Lime—
Hamburg, 495 bgs.
Castor Oil—
Antwerp, 84 cks.
Chemicals *(otherwise undescribed)*
Hamburg, 845 bgs.
Rotterdam, 6 cks. J. Rankine & Son
Chromium Fluoride—
Rotterdam 5 cs. J. Rankine & Son
Colours—
Rouen, 3 cks.
Antwerp, 4 Crawford & Co.

Cottonseed Oil—
New York, 100 brls.
Dyestuffs—
Alizarine
Rotterdam, 16 cks. 1 cs. 6 brls. J Rankine & Son
Aniline
Rotterdam, 4 cks. 5 cs. J. Rankine & Son
Hamburg, 10 4
Aniline Colours
Hamburg, 7 cks 1 cs.
Shumac
Palermo, 200 bgs.
Fiume, 100 Wm. Bunten & Co.
" 100
French Chalk—
Fiume, 10 bgs.
Gelatine—
Hamburg, 1 cs.
Glucose—
New York, 300 brls.
Baltimore, 250
Glue—
New York, 2 brls.
Naples, 160 bgs.
Rotterdam, 150 J. Rankine & Son
Fiume, 200 T. M. Duche & Sons
" 290
Boston, 10 kgs. 10 brls.
Rouen, 45 cks. 12 bls. 80 pks.
Lead Acetate—
Hamburg, 15 cks
Ochre—
Leghorn, 5 cks.
Rouen, 20
Paraffin Scale—
New York, 450 brls. Wm. Walls & Co.
" 370 Robin & Houston
Phosphate of Lime and Rock -
Antwerp, 4,298 bgs.
Plumbago—
Genoa, 20 bgs.
Potash—
Hamburg, 44 dms.
Pumice Stone—
Leghorn, 80 bgs 2 cs.
Messina, 20 40

Pyrites—
Huelva, 1,952 t. Tharsis Co.
Rosin—
New York, 510 brls. John Stewart & Co.
" 253 Sandeman Brs.
" 250
Soap—
Rotterdam, 2 cs. J. Rankine & Son
Malta, 54
New York, 339 brls.
Rouen, 4
Starch—
Baltimore, 200 bgs.
Antwerp, 120 cs.
New York, 100
Stearine—
Amsterdam, 62 bgs. J. Rankine & Son
Tallow—
New York. 100 tcs.
Tartar—
Bordeaux, 15 cks.
Treacle—
New York, 75 brls.
Ultramarine—
Rotterdam 10 cs. J. Rankine & Son
Varnish—
New York, 6 brls.
Antwerp, 2 cks.
Waste Salt—
Hamburg, 255 cks. & qty.
White Lead—
Rotterdam. 145 cks. J. Rankine & Son
Wood Pulp—
Christiania, 2,519 bls.
Zinc Ashes—
Rotterdam 3 cks. J. Rankine & Son
Zinc Oxide—
New York, 150 bls.
Antwerp, 27 Crawford & Co.
Zinc White—
Rotterdam, 75 cks. 25 pks. J. Rankine & Son

TYNE.

Week ending March 26th.

Alum Earth—
Hamburg, 26 cks. Tyne S. S. Co.
Barytes—
Rotterdam, 100 bgs. 68 cks. Tyne S. S. Co.
Colours—
Christiania, 1 cs.
Paint—
Hamburg, 3 dms. Tyne S. S. Co.
Christiania, 100
Pyrites—
Huelva, 4,280 t. Tharsis Sulphur & Copper Co.
Quicksilver—
Copenhagen, 100 cylders.
Soap—
Rotterdam, 2 cs. Tyne S. S. Co.
Starch—
Rotterdam, 124 cs. Tyne S. S. Co.
Wood Pulp—
Christiania, 310 bls.
Zinc Sulphate—
Gothenburg, 40 bgs.

GOOLE.

Week ending March 23rd.

Alizarine—
Rotterdam, 59 cks. 9 cs.
Alkali—
Calais, 13 cks.
Barytes—
Antwerp, 18 cks.
Caoutchouc—
Boulogne, 1 ck.
Chemicals *(otherwise undescribed)*
Hamburg, 6 cks.
Colours—
Hamburg, 6 cks.
Dyestuffs *(otherwise undescribed)*
Boulogne, 30 cks. 1 cs. 30 pks.
Rotterdam, 242 65
Farina—
Delfszyhl, 706 bgs.
Hamburg, 800

Glue—
Boulogne, { 4 cks. 8 bgs.
Indigo—
Rotterdam, 3 brls.
Lead Acetate—
Hamburg, 4 cks.
Ochre—
Calais, 36 cks.
Potash—
Calais, 14 dms.
Pyrites—
Huelva, 1,415 t.
Saltpetre—
Rotterdam, 100 bgs.
Hamburg, 6 cks.
Starch—
Ghent, 76 bxs.
Waste Salt—
Hamburg, { 204 cks. 10 bgs.

GRIMSBY.

Week ending March 26th.

Acids—
Antwerp, 16 cs.
Albumen—
Hamburg, 10 cks. 2 cs.
Barytes—
Rotterdam, 60 bgs.
Caoutchouc—
Hamburg, 6 cs.
Rotterdam, 2
Chemicals *(otherwise undes.)—*
Antwerp, 5 cks.
Hamburg, 2 cs.
Rotterdam, 2
Colours—
Antwerp, 10 cs. 93 pks.
Hamburg, 8 cks.
Rotterdam, 1
Farina—
Hamburg, 120 bgs.
Plumbago—
Hamburg, 2 cks.
Starch—
Antwerp, 319 cs.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending March 30th.

Acids—
Hamburg, 5 cs. £13
Durban, 12 12
Colombo, 21 23
Townsville, 40 30
Cape Town, 19 18
Pt. Elizabeth, 26 32

Alkali—
Hamburg, 5 t. 7 c £105
E. London, 1 5

Ammonia—
Pt. Elizabeth, 4 cs. £11

Ammonia (Liquid)—
Hamburg, 10 dms. £17
Cologne, 27 cks. 216

Ammonium Carbonate—
Paris, 1 t. £28
Sydney, 4 cs. 22
B. Ayres, 1 28

Ammonium Chloride—
Antwerp, 8 cks. £35
Mersyne, 11 c. 20
Auckland, 1 t. 10 28
Varna, 18 26
Galatz, 1 6 38
Cologne, 21 cks. 9[illegible]

Ammonium Sulphate—
Barbadoes, 50 t. £475
Ghent, 49 10 c. 446
Hamburg, 560 5,351
Antwerp, 151 9 1,364
Bremen, 150 1,460
Colombo, 10 7 116
Demerara, 50 2 486
Ostend, 200 19 1,859
Dunkirk, 211 1,920

Anhydrous Ammonia—
Cologne, 6 cylders. £16
Durban, 2 t. 144
Rotterdam, 20 70
Shanghai, 1 c. 22

Arsenic—
Karachi, 3 cs. £20
Calcutta, 20 dms. 46
Cape Town, 1 t. 23

Borax—
Dusseldorf, 2 t. £36
Cologne, 5 12 c. 94
Reval, 1 4 20
Rotterdam, 2 16 101

Calcium Chloride—
Lyttelton, 20 t. 5 c. £66

Carbolic Acid—
Hong Kong, 15 dms. £6
Philadelphia, 5 cs. 23
Newport News, 23 cks. 130
E. London, 2 8
Bombay, 100 5 48

Carbonic Acid Gas—
Hamburg, 8 flasks £40
Channel Is., 48 tubes 18

Caustic Soda—
Wanganui, 5 t. £37
Gisborne, 3 c. 6
Napier, 7 19
Pt. Elizabeth, 1 9
Durban, 4 10 45
Auckland, 10 9
E. London, 3 2 74
Cape Town, 1 9 31

Chemicals *(otherwise undescribed)*
St. John's, N.B., 14 cs. £42
Paris, 3 29
Dunedin, 29 pks 47
Auckland, 17 cks 15
Amsterdam, 1 30
Boston, 10 dms. 17
Demerara, 50 pks. 14
Cape Town, 10 34

Piræus, 1 brl. 12
Madras, 6 cks. 11
Chicago, 20 165
Hamburg, 4 42 kgs 326
Rosario, 20 40
Brussels, 4 1 44
Bourgas, 2 14
E. London, 20 15
Singapore, 14 25
B. Ayres, 18 pks. 65

Citric Acid—
Bombay, 6 c. £22
Rotterdam, 1 t. 20 cks. 242
Hamburg, 1 110
Auckland, 3 pks. 4 2 kgs. 54
Hiogo, 1 6
Odessa, 1 t. 5 140
Shanghai, 1 7
E. London, 1 6
Wellington, 1 6
Durban, 1 8
Calcutta, 2 13
Lisbon, 5 cks. 20

Coal Products—
Alizarine
Lisbon. 2 cks. £34
Aniline
Melbourne, 1 cs. £10
Sydney, 1 16
Anthracene
Dusseldorf, 291 cks. £870
Benzol
Treport, 48 cks. £135
Creosote
Dieppe, 23,500 galls. £123
Creosote Salts
Philadelphia, 831 bgs. £229
Gasoline
Durban, 30 dms. £27
Naphtha
Rio de Janeiro, 8 dms. £10
Boston, 5 cks. 21

Naphthaline
Durban, 6 cks. £[illegible]
New York, 174 [illegible]
Pitch
Baltimore 1,000 bgs. £140
Boston, 500 cks. [illegible]
Shanghai, 54 brls. [illegible]
Aviles, 727 t. [illegible]
Melbourne, 40 [illegible]
Alexandria, 250 [illegible]
Chantenay, 1,100 1,500
Antwerp, 810 1,012
New York, 7 cks. 20 [illegible]
Pyridine
Hamburg, 12 cks. £140
Tar
Gothenburg, 60 brls. £[illegible]
Durban, 6 4
Pt. Elizabeth, 100 dms. 12
Toluol
Hamburg, 10 cks. £110
Boulogne, 25 140
Rotterdam, 48 170 dms. 230

Copper Sulphate—
Bordeaux, 55 t. £[illegible]
Paris, 102 10 c. 1,[illegible]
Treport, 10 [illegible]
Marseilles, 20 334
Malaga, 25 416
Genoa, 72 1,215

Cream of Tartar—
Wellington, 3 c. £11
Canterbury, 5 19
Delagoa Bay, 5 24
Gisborne, 5 29
Melbourne, 2 t. 10 195
Auckland, 2 10 212
Newcastle, 1 13 137
Sydney, 2 10 [illegible]
Santos, 20 cs. [illegible]

Disinfectants—
Bombay, 150 dms. £21

y,	200			31
s.	25			48
Kong,		19 pks.		12
g,	50			13
tta,		4 cs.		10
urg,	50 cks.			125
urne,		8		37
—				
itts,	3 t.	16 c.		£12
ua,	20 puns.			31
rara,		10		19
re—				
bo,	50 t.			£275
n,	29	18 c.		344
el Is.,	2			5
aux,	20			70
ndon,		7		19
lad,	200			976
cloupe,	5			150
Cake—				
burg,	0			£20
Acid—				
urne,	3 cks.			£33
n—				
rdam,	1 cs.			£40
hate—				
t,	100 t.			£190
horic Acid—				
tius,	10 t.	16 c.		£156
horus—				
iffe,	1 cs.			£11
y,	23			185
tta,	1			14
n—				
n,	3 t.	15 c		£150
agton,	1	8		46
ium Bicarbonate—				
delphia.	1 t.	6 c.		£35
ium Bichromate—				
s,	1 t.	13 c.		£69
ium Chlorate—				
urne,	2 t.			£242
Town,	40 cks.			61
tta,		20 cs.		30
ium Chloride—				
bo,	20 t.			£200
ium Cyanide—				
oa Bay,	5 t.			£466
ndon,			5 cs.	13
tta,		3 c.		14
land,	6			78
e Janeiro,	1	10		224
an,	7			774
urne,	1		5	173
ium Permanganate—				
tta,		5 c.		£9
etre—				
,	5 t.	11 c.		£114
York,		11		15
o,	5	18		108
ngton,		10		11
s,	4	3		87
e Janeiro,	5	2		105
Dip—				
nd, Or.,		300 cs.		£375
ston,		300		375
rancisco,		17 c.		25
res,	17 t.	10	1,500	3,761
an,	2	14		20
deo,	6	16		200
izabeth,		12		14
—				
urg,		6 c.		£5
rdam,	6	9		60
and,	2			15
rk,	5			15
Crystals—				
ndon,		2 c		£8
n Bicarbonate—				
and,	5 t.			£33
n's, N.B.,	25			149
n Nitrate—				
urne,	2 t.	5 c.		£13
and,		6		9
ium Nitrate—				
fork,	3 t.	11 c.		£84
ar—				
,	6 t.	7 c.		£57
ra,	22 brls.			19
res,		1		9
ll,		13	60 cs.	23
deo,		19		20
ric Acid—				
io,	5 t.			£38
rara,		45 carboys		16
izabeth,			25 cs	17
n,	4	19 c.	85	85
g,	2	15		22
phosphates—				
dam,	70 t.	17 c.		£210

Tartaric Acid—				
Gisborne,		4 c.		£24
E. London,		2		10
Hiogo,		5		29
Newcastle,	1 t.	10		174
Yokohama,	1	11		174

LIVERPOOL.

Week ending March 30th.

Alkali—				
Valencia,	10 t.	13 c.	1 q.	£43
B. Ayres,	11	11	3	50
Corfu,	6	3	3	25
Adelaide,	15	1	1	60
Calcutta,	9	16	3	40
Madeira,	7	18	2	30
Syra,	3		3	12
Corinto,	6	3	3	25
Genoa,	10	2	2	40
Malta,	5		1	20
Alum—				
Madras,	1 t.		2 q.	£6
Havana,	5	1 c.		23
Ammonia—				
Tumaco,		3 c.	3 q.	£8
Ammonium Carbonate—				
Oporto,	1 t.			£28
Odessa,	5			140
Venice,		15 c.		20
Naples,		6		7
Melbourne,		5		12
Hamburg,	1	10		44
Ammonium Chloride—				
Gijon,		10 c.		£16
Trieste,	1 t.			29
Copenhagen,	2	10		50
Melbourne,	1			19
Leghorn,	1	6		27
Genoa,	1	19		44
Piræus,		15		27
Galatz,		16		25
Boston,	5	12		80
Patras,		10		15
Ammonium Sulphate—				
Leghorn,	10 t.	10 c.	3 q.	£106
Samarang.	150			1,500
Pecalongan,	196	10		2,370
Sourabaya,	194			2,280
Tegal,	25			310
Gandia,	78	12		682
Barcelona,	9	10		85
Palermo,	5			45
Genoa,	16			85
Cartagena,	8	3		83
Valencia,	57	18	2	544
New York,	24	15		241
Demerara,	5	18	1	64
Las Palmas,	14			130
Bleaching Powder—				
Ancona	6 cks.			
Baltimore,	58			
Bilbao,	29			
Bombay,		45 bxs.	10 cs	
Boston,	520			
Calcutta,			105	
Cape Town,		40		
Caxios,		7 brls.		
Chicago,	20			
East Angus,	51			
East St. Louis,			35 pks.	
Genoa,	171			
Leghorn,	45			
Libau,	10			
Lisbon,	85			
Messina,			20	
Naples,	15	15		
Newport News,	154			
New York,	393	25		
Patras,	5			
Philadelphia,	83			
Rio de Janeiro,		50 bxs		
Rouen,	18			
St. John's, N.B.,	2			
San Sebastian,	53			
Seville,	40			
Valparaiso,		10 brls		
Venice,	17			
Vera Cruz,	20			
Windsor Mills,	37			
Boracic Acid—				
Genoa.		6 c.		£7
Borax—				
Tampico,		17 c.		£15
Yokohama,	2 t.	19	1 q.	52
Galatz,	1			10
Havana,	2	10		40
Syra,	1			12
Callao,	1	10		6
Copenhagen,	10	10		1[illegible]
Rotterdam,	13	18		20[illegible]
Portland, M.,	13	6		2[illegible]

Calcium Chloride—				
Odessa,	20 t.	4 c.		£42
Genoa,	2	1		5
Camphor—				
Progresso,		1 c.		£8
Carbolic Acid—				
Sierra Leone,		4 c.		£5
Bombay,	5 t.	7	1 q.	50
Rotterdam,	11	10		681
Madras,		14		7
Odessa,	4	3		81
Caustic Potash—				
Colon,	2 t.	1 c.		£62
Para.	1	6		24
Caustic Soda—				
Acajutla,	70 dms.			
Adelaide,	30	7 pks.		
Alexandria,	145			
Amsterdam,	33			
Ancona,	58			
Antwerp,	110			
Barbadoes,			22 bxs.	
Bari,	53			
Barcelona,	440			
Bilbao,	120		50 brls.	
Bombay,	56			
Boston,			204	
Braila,	35			
Bremen,			5	
B. Ayres,	60			
Calcutta,	46			
Cartagena, N G.	45			
Cartagena, Sp.,		12 cks.		
Catania,	17			
Caxios,	3			
Constantinople,		5 pks.		
Corinto,	15			
Corfu,	50			
Corunna.	10		14	
E. London,	10	25 cs.		
East St. Louis,	25		20	
Fairwater,	143			
Fremantle,		43 pks.		
Galatz,	76			
Genoa.	247			
Ghent,	18			
Gothenburg.	30			
Hamburg,	31	18	20 kgs.	
Hong Kong,	50	10		
Huelva,			10 brls.	
Jamaica,	18			
La Guayra,	15			
Leghorn,	41			
Libau,	221			
London,	35			
Malaga,	38			
Marseilles.	20			
Melbourne,	127			
Messina,	43			
M. Video,	150			
Montreal,	50			
Nantes,	123			
Naples,	30			
N. Orleans,	50			
New York,	300		100	
Odessa,	410			
Oporto,	120			
Para.	42			
Paranahyba,	20			
Paris,	73			
Penang,	100			
Pernambuco,	40			
Philadelphia,	200			
Pimental,	20			
Piræus.	51			
Porto Alegre,	50			
Rangoon,	15			
Reval.		30 cks.		
Rio G. Do Sul,	30			
Rotterdam,	32	31 pks.		
Salonica,		67		
San Francisco.		20 cs		
San Sebastian,	80			
Seville,	180		100	
Stettin,	56			
Stretensk,	18			
Sydney.	51			
Talcahuano,	70			
Tampico,	280			
Tarragona,	50	42 pks.		
Trieste,	17			
Trinidad,	40			
Valencia,	86			
Valparaiso,	115			
Vera Cruz,	14			
Chemicals *(otherwise undescribed)*				
Philadelphia,	13 t.	5 c.		£395
Marseilles,		10		16
Naples,	1		2 q.	19
Odessa,	14	2	3	365
Rotterdam,	5			70
Bombay,		3		2
Natal,		11	1	20
Valencia,	1	17		27

Barcelona,	7	16	3	115
Genoa,	2			30
Alicante,	1	10		20
Santander,	1	19		28
Salonica,		10		18
China Clay—				
Barcelona,	852 pks.			
Bombay,	240 cks.			
Boston,	330			
Calcutta,	1,046			
Genoa,			202 bgs.	
Lisbon,		130		
Madras,	320			
New York,	220			
Philadelphia,	200			
Portland, Me.,	92			
Rio de Janeiro,	72			
Tampico,			70	
Yarmouth,	240			
Coal Products—				
Aniline Oil				
Fiume,	10 dms.			
Aniline Salts				
Genoa,	19 brls.			
Pitch				
Guanta,	81 t.	21 c.		
Bilbao,	96 brls.			
Tar				
Sierra Leone,	30 kgs.	4 brls.	20 hf brls.	
Copper Oxide—				
Brisbane;		5 c.	1 q.	£5
Copper Sulphate—				
Galatz,	5 t.	14 c.		£98
Fiume,	10	3		157
Calcutta,	7			112
Lisbon,	32	4	2 q.	211
Leghorn,	161	16		2,614
Brindisi,	12	10		201
Cette	183	18		1,097
Messina,	20	4		328
Odessa,	14	1	2	223
Hamburg,	9	16		152
Salonica,	7	1		109
Ghent,	4	17	1	81
Rotterdam,	19	19		319
Tampico,	10		1	155
Algiers,	19	11		318
St. John,		10		8
Trieste, Naples,	29	10		454
Amsterdam,	1	9		24
Ancona,	24	1	1	400
Corinto,	5	7		91
Beyrout,		10		9
Limassol,	1	5		20
Piræus,	1	9		25
Palermo,	5	4		82
Alexandria,	1	7		22
Patras,	2			37
Nantes,	20	7		322
Paris,	61	1	1	986
Konigsberg,	1	3	1	19
Danzig,	3	2	1	56
Oporto,	4	19	3	78
Bordeaux,	632			10,383
Venice,	250	18		4,032
Naples,	137 / 20 cks.	7	2	2,191
Genoa,	21 / 360 t.	2		5,500
Copperas—				
Syra,	5 t.	13 c.		£11
Cream of Tartar—				
Tampico,		1 c.	3 q.	£10
Vera Cruz		1	1	5
Disinfectants—				
New York,		5 c.		£7
Calcutta.	2 t.	10		13
Montreal,		5		20
Pt. Limon,		2		5
Fluoric Acid—				
Demerara,	3 cs.			£5
Gypsum—				
Melbourne,	6 t			£10
Magnesia—				
Bordeaux,	10 cs.			
Paris,	15			
Rosario,	4			
Rouen,	20			
Tampico,	16			
Magnesium Sulphate—				
Alexandria,	66 kgs.			
Lisbon,		41 bgs.		
Rio de Janeiro,	200			
Manure—				
Bordeaux,	29 t.	11 c.		£110
Muriatic Acid—				
Pernambuco,	1 t.	1 c.		£9
Nitric Acid—				
Rangoon,	2 cs.			£5
Oxalic Acid—				
Boston,	6 t.	15 c.		£191

Paint—
Alexandria, 58 dms. 92 kgs.
Antwerp, 2 cks. 1
Beyrout, 16
Bilpao, 21
B. Ayres, 30 cs.
Cape Coast, 18 pks.
Carrigal, 15
Cavite, 43
Cienfuegos, 2
Curacao, 60
Demerara, 78
Gibraltar, 204
Gothenburg, 6
Grand Bassa, 21 bxs.
Havana, 6
Iquique, 10
Madrid, 3
Malta, 18
M. Video, 14
Nassau, 75
Para, 17 cks. 10 brls 250 kgs.
Rio de Janeiro, 24
St. John's, N'fd. 242 pks.
St. John's, 4 cks.
Saltpond, 4
Sekondi, 8 pks.
Sierra Leone, 16 8 cs. 128
Sulina, 10 cks.
Tampico, 7
Valparaiso, 22
Vera Cruz, 4

Painters Colours—
Aracaju, 10 frkns.
Antwerp, 38 kgs.
Bahia, 25 brls.
Baltimore, 453 pks.
Barbadoes, 60
Boston, 235
Bremen, 500 bgs.
B. Ayres, 10 cs. 60 cks.
New York, 2
Para, 147
Ponce, 6 brls.
Rotterdam, 2 cs.
St. John's, Nf'd., 42
St. John's, 3
Santos, 8

Paraffin Wax—
Brindisi, 6 bgs.
Fiume, 30
Genoa, 100
Leghorn, 15
Palermo, 10
Pernambuco, 8 cks.
Piræus, 6
Riga, 5
Rio de Janeiro, 5 cs.
Smyrna, 5
Syra, 10
Trieste, 10

Picric Acid—
New York, 1 t 10 c. £31

Potash—
Havana, 7 c. £10

Potassium Bichromate—
Rio de Janeiro, 1 t. 1 c. 1 q. £37
Bari, 8 11
Smyrna, 5 10 4
Tampico, 1 1 1 35

Potassium Carbonate—
Calcutta, 1 t 4 c. £31

Potassium Chlorate—
Naples, 10 c. £15
Stettin, 10 16
Hamburg, 2 t. 9 70
Revel, 5 137
Vera Cruz, 1 1 2 q 35
Odessa, 2 60
Gijon, 1 30
Boston, 7 10 213
Gothenburg, 7 10 241
Rio de Janeiro, 1 29
Montreal, 1 5 35
Valparaiso, 3 5
New York 15 421
Hiogo, 21 10 650
Lisboa, 6 10 195
Libau, 19 18 592

Potassium Prussiate—
Naples, 2 cks. £36

Potassium Stannate—
Bombay, 19 c. £52

Salt—
Adjuah, 6 t.
Akassa, 605 4 c
Antwerp, 70
Axim, 13 15
Baltimore, 524
Barbadoes, 3
Boston, 100
Brisbane, 434 14
Cameroons, 16 15
Cape Coast 20 3
Demerara, 89 10
E. London, 44
Galveston, 485
Halifax, 98 8
Hamburg, 95 5
Lagos 190 17
Landana, 75
Manho, 55 14
Matadi, 58
Melbourne, 80
Noqui, 30
Old Calabar, 20 2
Para, 501 18
Portland, 50
Rio de Janeiro, 400 cs.
Rio Del Rey, 12 18
Rotterdam, 174
Rouen, 15
St. John's, N.B., 790
St. John's, N'fd., 15
Saltpond, 3 15
San Francisco, 78 19
Sierra Leone, 100
Since, 3 6
Trinidad, 70 13
Wellington, 40

Salt Cake—
Philadelphia, 40 t 5 c. £62
Baltimore, 65 18 99
La Plata, 1 10 3

Saltpetre—
Syra, 3 t. 7 c. 1 q. £67
Philadelphia, 18 5 3 310
Ceara, 5 3 6
Para, 10 11
Pernambuco, 5 14 1 117
Cephalonia, 5 5

Sheep Dip—
Portland, M., 1 t. £22
B. Ayres, 101 cs. 4 6 c. 1 q. 371
Natal, 300 dms. 60
M. Video, 2 10 2 92
E. London, 8 14 2 95

Soap—
Addah, 100 bxs.
Alexandria, 10
Algoa Bay, 63
Axim, 100
Bangkok, 100
Barbadoes, 300
Beira, 10
Bombay, 200 5 cs.
Bonny, 100
Boston, 5 brls. 20 cks.
B. Ayres, 1 cs.
Cabenda, 30
Cairo, 40
Calcutta, 774 pks.
Callao, 15 bxs.
Cape Town, 2625 30 cs.
Constantinople, 33
Copenhagen, 110 40 pks.
Curacao, 100
Demerara, 1950
Dominica, 2
E. London, 100 1859
Egwanga, 100
Galata, 20 cks.
Gibraltar, 154 bxs.
Half Jack, 20
Hong Kong, 50 dms.
Johannesburg, 8 bxs.
Karachi, 900
Iquito, 450
Jamaica, 1646 pks.
Karachi, 250 bxs.
Lagos, 1609
Las Palmas, 512
Leghorn, 6 c.
Livingstone, 50 bxs.
Lorne, 50
Madras, 25 cs.
Monaos, 1675 bxs.
Mossel Bay, 300
N. York 39 cs.
Old Calabar, 1310 bxs
Opobo, 100
Ottawa, 100 cs.
Para, 923 bxs.
Paris, 56 cs.
Piraeus, 15 pks.
Port Natal, 1230 bx 45 pks.
Porto Novo, 200
Rangoon, 502 2 cs.
Rio de Janeiro, 3
Rotterdam, 250
St. Gull, 240 cs.
St. John's N.F. 127 cs.
St. John's, 105 bxs.
St. Kitts, 100
St. Lucia, 290
San Juan, 150
San Juan Del Sur 30
Shanghai, 20847
Sierra Leone, 53 10 cs.
Singapore, 1842
Surinam, 150
Teneriffe, 724
Trinidad, 1780
Vera Cruz 1 cs
Zurich, 255 cs.

Soda—
Bourgas, 5 cks.

Soda Alkali—
Barcelona, 35 brls.
Catania, 35
Corinto, 20 cks.
Genoa, 70 32
Madeira, 25
Talcabuano, 60
Vigo, 30

Soda Ash—
Antwerp, 1,588 bgs.
Anvelais, 181
Baltimore, 15 cks.
Barcelona, 50
Bari, 200
Bombay, { 4 brls. / 70 kgs. 32
Boston, 200 bgs. 96
B. Ayres, 370
Calcutta, 94
Constantinople, 50
Copenhagen, 1,270
Demerara, 8
E. London, 45
Genoa, 101
Ghent, 100
Gothenburg, 520 pks.
Hamburg, 630
Jamaica, 10
Leghorn, 130 30
Libau, 600
Lisbon, 50
M. Video, 55
Montreal, 107
N. Orleans, 1,600
Para, 10
Pelotas, 30 cks.
Philadelphia, 2,400 124 tcs.
Porto Alegre, 120 cks.
Puerto Cabello, 8
Rio de Janeiro, 100
Rio Grande Do Sul, 100 40
San Francisco, 660
Savanilla, 50
Smyrna, 500 bgs.
Sydney, 260
Valparaiso, 25
Vera Cruz, 13 tcs.
Vigo 10
Woodstock, 110

Soda Crystals—
Alexandria, 100 brls.
Bombay, 90 kgs.
Calcutta, 34
Canada, 5 pks.
Cape Town, 32
Galatz, 7
Gibraltar, 70
M. Video, 50 cks.
New York, 56
St. Johns, N.B., 45 pks.
St. John's, 100
Valparaiso, 200

Sodium Bicarbonate—
Adelaide, 160 kgs.
Alexandria, 60
Antwerp, 10
Barbadoes, 100 4 cks.
Barcelona, 200
Bombay, 163
Bordeaux, 103
Cadiz, 10
Calcutta, qty.
Copenhagen, 36 pks.
Corinto, 20
Demerara, 20
E. London, 108 bgs.
Fredricton, 200 dms.
Galatz, 140 kgs
Genoa, 36 cks.
Gibraltar, 100 bgs.
Gothenburg, 5 pks.
Havana, 15 kgs
Huelva, 40
Melbourne, 75
Nantes, 17
Pt. Elizabeth, 20 bgs.
Pt. Natal, 10 kgs.
Rotterdam, 12 21
Rouen, 180
St. John's N.B., 200 dms. 3 cks
St. John's, 34
Sydney, 100
Tampico, { 250 / 100 bgs.
Valparaiso, 100 kgs.
Vera Cruz, 50
Wellington, 50

Sodium Bichromate—
Libau, 428 kgs.

Sodium Carbonate—
Boston, 112 brls.
New York. 112

Sodium Chlorate—
Hamburg, 4 brls. 5 pks
Reval, 100 kgs.

Sodium Hyposulphite—
Barranquilla, 40 bxs
Genoa, 37 brls.
Quebec, 9 cks

Sodium Nitrate—
St. John's, 10 bgs.

Sodium Silicate—
Monastier, 26 brls.
Nantes, 16 dms.
New York, 10
San Sebastian, 17

Sodium Sulphate—
Bombay, { 150 bgs. / 25 kgs. 13 brls.

Starch—
Bombay, 6 cks.
Oporto, 30 bgs.
Pernambuco, 14 cs.
St. John's, 20

Strontia—
Hamburg, 10 c.

Sulphur—
Boston, 100 t. 1 c.
Philadelphia, 100 1
Aracaju, 1 3 2 q.
Lisbon, 4 8 1
Pernambuco. 1 2 3

Sulphuric Acid—
Manaos, 1 t.
Pernambuco, 5 c.

Superphosphates—
Cape Town, 200 t.
Morlaix, 150 2 2 q.
Gandia, 15 1 c.
Alicante, 20 10
Gd. Canary, 5 1

Tartaric Acid—
Marzatlan, 1 c.
Montreal, 10
Manaos, 1

Varnish—
Craiova, 1 cs.
Genoa, 6 cks.
Leghorn, 13 pks.
Montreal, 7
Seville, 11
Sulina 40 dms.

White Lead—
Bahia. 50 kgs
Para, 50

Zinc Chloride—
Bombay, 6 t 5 c. 3 q.
Bourgas, 20 t.

MANCHESTER

Week ending March 30th.

Alkali—
Tunis, 1 ck.

Alum—
Bombay, 85 brls.

Alumina Sulphate—
Alexandria, 26 cks.

Aniline Colours—
Germany, 1 cs.

Aniline Salts—
Belgium, 1 cs.
Germany, 1 pn.
Rouen, 2 cks.

Anthracene—
Germany, 254 cks.

Antimony—
Holland, 1 ck.

Benzol—
Lyons, 30 cks.

Bleaching Powder—
Rio de Janeiro, 8 cs

Caustic Soda—
Rio de Janeiro, 8 dms
Tunis, 2 cs. 1
Bombay, 20

Chemicals (*otherwise unescri*
Alexandria, { 40 cks. / 50 brls.
Antwerp, 4 12 kgs
Rotterdam, 5

Copper Sulphate—
Rio de Janeiro, 1 ck.

Disinfectants—
Bombay, 25 cks.
Extracts—
Germany, 1 ck.
Glue—
Encehele, 12 cks.
Bombay, 2
Germany, 22
Holland, 10
Manure—
Belgium, 34 bgs.
Mineral White—
Rio de Janeiro, 14 bgs.
Naphthylamine—
Switzerland, 15 cks.
Naphthol—
Belgium, 3 brls.
Painters' Colours—
Germany, 1 cs.
Paraffin Wax—
Beyrout, 6 cs.
Barcelona, 20 dbl.-bls.
Pitch—
Treport, £24
Potassium Carbonate—
Rio de Janeiro, 3 cks.
Rosin—
Beyrout, 15 brls.
Soap—
Bombay, 16 cks.
Soda Crystals—
Malta, 1 cs.
Sodium Naphthionate—
Germany, 46 cks.
Sulphuric Acid—
Rio de Janeiro, 15 cs.
Tallow—
Bombay, 40 brls.
Holland, 6 cks.
Tar Oil—
Germany, 5 dms.
Toluol—
Germany, 28 dms.
Turpentine—
Alexandria, 10 dms.
Whiting—
Bombay, 6 cks.
Zinc Ashes—
Germany, 90 bgs.

GLASGOW.

Week ending March 31st.

Ammonium Sulphate—
Penang, 110 t.
Samarang, 35 19¾ c.
Taganrog, 153 4½
Hamburg, 50 13
Bleaching Powder—
Calcutta, 32 t. 17½ c.
Borax—
Rotterdam £283
U.S.A., 40
Chemicals (*otherwise undescribed*)
Lisbon, 3 t. 6 c
Coal Products—
Benzine
France, £367
Creosote
Danzig, 42 t. 18 c.
Creosote Oil
Russia, £250
Pitch
New York, £600
Amsterdam, 250 t.
Danzig, 110 11 c.
France, 480
U.S.A., 44
Antwerp, 485 8
Pitch and Tar
Bombay, £47
Tar
Singapore, £50
Danzig, 537 t. 9 c.
Hamburg, 10 15
Russia, 225
U.S.A., 54
St. John's, N'fld., 58
Coal Products (*otherwise undes.*)—
Amsterdam, 4 t. 16 c.
Rotterdam, £200
Dextrine—
U.S.A., £229
Dyestuffs (*otherwise undescribed*)
Calcutta, £28
Lisbon, £29 12s.

Extracts—
Montreal, £12
Lisbon, £35 14s.
Gelatine—
Canada, £73
Hydrochloric Acid—
Bombay, £32
Iodine—
Rotterdam, £1,100
Lead Acetate—
Bombay, £56
Linseed Oil—
Canada, 3 t. 1¾ c.
Litharge—
Bombay, £41
Logwood—
Canada, £43
Manganese—
Rotterdam, £120
Manure—
Spain, 4 t.
Paint—
Calcutta, qty.
Penang, £38 13s.
Samarang, £22
Bilbao, 69
Antwerp, 23
Painters' Colours—
Singapore, qty.
St. John's, N'fld., ,,
Calcutta, ,,
U.S.A., £26
Paraffin Scale—
Penang, £20
Paraffin Wax—
Rotterdam, £4
Potassium Bichromate—
Bombay, £142
Rotterdam, 84
U.S.A., 213
Antwerp, 351
Potassium Prussiate—
New York, £247
Soap—
E. London, 6 t.
Sodium Bichromate—
Bombay, 2 t. ¼ c.
Tallow—
Rotterdam, 14 t. 5 c.
Treacle—
Bergen, 24 t. 4 c.
E. London, 1 10

HULL

Week ending March 26th.

Alkali—
Bergen, 4 dms.
Stavanger, { 100 bgs. 6 cks.
Ammonium Sulphate—
Dunkirk, 147 bgs.
Stettin, 500
Bleaching Powder—
Stettin, 39 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 55 cks. 5 cs. 10 pks.
Antwerp, 10
Bremen, 7
Constantinople, 30
Copenhagen 13
Christiania, 3 724 slbs.
Danzig, 70 pks.
Drontheim, 18 1 10 kgs.
Gothenburg, 20
Hamburg, 20 60
Hango, 3
Konigsberg 10 pks.
Odessa, 50
Rotterdam, 192 3 brls.
Reval, 10 5
Stettin, 6 136 pks.
Cottonseed Oil—
Amsterdam, 1,335 c.
Antwerp, 544
Bergen, 40
Bremen, 53
Bordeaux, 103
Constantinople, 203
Copenhagen, 138
Danzig, 85
Dunkirk, 8
Gothenburg, 17
Hamburg, 1,339
Rotterdam, 2,592
Rouen, 945
Stettin, 201
Stavanger, 51

Dyestuffs (*otherwise undescribed*)
Christiania, 12 bgs.
Stettin, { 2 cks. 58 bgs.
Farina—
Danzig, 20 bgs.
Glue—
Ghent, 20 bgs.
Hamburg, 2 cks.
Guano—
Dunkirk, 100 t.
Linseed Oil—
Bordeaux, 36 c.
Copenhagen, 95
Christiania, 95
Drontheim, 18
Hamburg, 215
Rotterdam, 17
Stavanger, 17
Manure—
Riga, 380 t.
Bordeaux, 10
Naphthaline—
Riga, 417 cks
Paint—
Bergen, 1 brl.
Painters' Colours—
Amsterdam, 18 cks. 1 cs.
Antwerp, 23 4
Bergen, 60 kgs.
Bordeaux, 19
Copenhagen, 13 4
Christiania, 3 15 pks.
Dunkirk, 1
Drontheim, 6
Gothenburg, 6
Ghent, 2
Hamburg, 72 3 1
New York, 22 25
Odessa, 60
Rotterdam, { 18 50 kgs. 7 dms
Reval, 1
Rouen, 10
Stettin, 50
Paraffin Wax—
Hango, 10 bgs.
Pitch—
Antwerp, 259 t.
Soap—
Amsterdam, 200 cs.
Superphosphates—
Kastrup, 502 t.
Tallow—
Danzig, 144 cks.
Tar—
Amsterdam, 42 cks.
Antwerp, 2 brls.
Bergen, 1
Copenhagen, 10
Drontheim, 2
Hamburg, 5
Rotterdam, 16
Stettin, 5
Turpentine—
Drontheim, 3 brls.
Varnish—
Amsterdam, 5 cks.
Antwerp, { 4 2 cs. 1 dm. 1 brl.
Copenhagen, 2
Drontheim, 2
Gothenburg, 1
Ghent, 1 1 dm.
Rotterdam, 9 1
Whiting—
New York, 28 cks.

TYNE.

Week ending March 26th.

Alkali—
Christiania, 5 t. 3 c.
Hamburg, 5
Rotterdam, 8 7
Alum—
Aalborg, 2 t. 2 c
Aluminous Cake—
Copenhagen, 65 t. 3 c.
Anthracene—
Rotterdam, 77 t. 9 c.
Antimony—
Hamburg, 2 t. 10 c.
Rotterdam, 3
Barcelona, 2
Arsenic—
Barcelona, 2 t. 5 c.

Barium Carbonate—
Hamburg, 24 t.
Barytes—
Antwerp, 2 t. 1 c.
Bleaching Powder—
Batoum, 4 t. 8 c.
Antwerp, 2 1
Amsterdam, 21 1
Trondjeim, 36 cks.
Rotterdam, 30 t. 11
Gothenburg, 20 3
Copenhagen, 46 8
Caustic Soda—
Bergen, 11 c.
Christiania, 1 t. 5
Copenhagen, 10 8
Barcelona, 28 7
Chemicals (*otherwise undescribed*)
Sebastopol, 10 c.
Litharge—
Copenhagen, 1 t. 1 c.
Hamburg, 1 3
Oporto, 1 2
Magnesia—
Copenhagen, 7 c.
Hamburg, 1 t. 3
Odessa, 11
Barcelona, 7 2
Paint—
Bergen, 10 c.
Sebastopol, 10
Hamburg, 1 t. 10
Rotterdam, 13
Gothenburg, 2
Copenhagen, 1 2
Soda—
Christiania, 1 t. 2 c.
Randers, 10
Amsterdam, 20
Rotterdam, 23
Soda Ash—
Hamburg, 9 t. 12 c.
Trieste, 16 9
Gothenburg, 60 2
Sodium Silicate—
Gothenburg, 3 t. 10 c.
Sulphur—
Gothenburg, 70 t.
Superphosphates—
Helsingborg, 503 t. 10 c.
Frederikshavn, 195
White Lead—
Oporto, 3 t. 3 c.
Gothenburg, 11
Copenhagen, 2 12

GOOLE.

Week ending March 23rd

Chemicals (*otherwise undescribed*)
Ghent, 51 cks.
Hamburg, 30
Coal Products (*otherwise undescribed*)—
Antwerp, 1 cs.
Boulogne, 6 cks. 5 tins pks
Rotterdam, 96
Colours—
Amsterdam, 13 cks.
Ghent, 6
Hamburg, 1 14 cs.
Dyestuffs (*otherwise undescribed*)
Rotterdam, 150 bgs.
Manure—
Ghent, 100 bgs.

GRIMSBY

Week ending March 26th

Alkali—
Hamburg, 16 cs.
Caoutchouc—
Gothenburg, 1 ck. 2 cs
Chemicals (*otherwise undescribed*)
Dieppe, 6 cks. 3 cs.
Hamburg, 5 dms.
Coal Products (*otherwise undescribed*)—
Dieppe, 25 brls. 1 cs. 5 pks
Hamburg, 4 cks.
Colours—
Antwerp, 2 cs. 3 pks
Hamburg, { 1 ck. 2 brls.
Rotterdam, 3 cks.
Manure—
Esbjerg, 2,159 bgs.
Hamburg, 410

PRICES CURRENT.

WEDNESDAY, April 6th, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary*

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/9 & 8/9		
„ Glacial	„	39/-		
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11½
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1½
Arsenic, white powdered	nett per ton	19	10	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- & 33/-		
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	8	15	0
„ „ (grey) Hull	„	8	15	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	1
„ 50/90 „	„	0	1	2
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	7
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	„	0	18	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	5
Copper	per ton	50	18	9
„ Sulphate	„	16	5	0
„ Oxide (copper scales)	„	45	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	17	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ *Nitrate*		20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
„ „ (grey) (ex ship	„	7	12	6
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	0	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	6
Oils:—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¼
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	5	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	12	0	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3¼
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton (10 ton lots)	8	5	0
„ „ (74 % Caustic Soda)	„ „ „ (10 ton lots)	8	0	0
„ „ (70 % Caustic Soda)	„ „ „ (10 ton lots)	7	5	0
„ „ (60 % Caustic Soda)	„ „ „ (10 ton lots)	6	5	0
„ „ (pure liquor 90° Tw.)	„ „ „ (10 ton lots)	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	18	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6¼
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	5	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	67	15	0
Zinc (Spelter)	„	18	12	6
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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AND

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LATE ADVERTISEMENTS.

AGRICULTURAL Analyst, thoroughly experienced in manure and food analysis, desires appointment with good firm.—Address, "Fertilizer," *Chemical Trade Journal* Office, Manchester.

WANTED, in quantity, Crude Pyridine. State price delivered in England.—Address, "A 718," *Chemical Trade Journal* Office, Manchester.

FOREMAN required for White Lead Works (precipitation process) in North of England; must be practical, energetic, and accustomed to controlling workmen.—Address, stating qualifications, references, and terms, to "Lead," c/o Warner, 291, Oxford-street, London.

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CURRENT TOPICS.

CONSULAR SQUIBS.

GREAT improvements are being made in the American consular service, and it would seem that these improvements are in no way necessitated by the fact of the present service being inefficient. If the latter really is the case, we cannot help thinking that the inefficiency is only apparent, because the Americans judge their consular service by a very high standard.

But if the American service needs reform, is it not possible that our own service may need some overlooking? It may be a good service (although there are differences of opinion on this point), but it does not inspire confidence in the capabilities of consuls to estimate and advise upon the trade requirements and possibilities of a district when their reports contain such information as the following:—

> A French dairyman near Lyons had for some time been experimenting in antiseptics for the sterilisation of milk. His researches were rewarded by the discovery of a new and very effective though harmless antiseptic, a non-poisonous wild herb common to the country. It is said he was led to the discovery by noticing that the milk of cows which had eaten of the herb in question did not acidify as rapidly as other milk! He experimented with the antiseptic plant in the form of a highly-condensed tincture with extraordinary results. One drop of the tincture added to one quart of milk stopped all fermentation for over six days. The milk thus treated was bottled and corked, kept at various temperatures for four days, then exposed to the air, and kept thus for 48 hours without showing any trace of acidification. With the cream subsequently rising, excellent butter was made, and the butter still felt the effect of the antiseptic by keeping better than any other.

There is something very suggestive of quackery about the highly concentrated tincture of antiseptic plant, which to the wary acts as a check upon any tendency to excessive optimism. Analytical reports follow, and we are told that the discoverer of this "valuable secret" took his discovery to London in the hopes of realising on it.

This report has been made the basis of a number of more or less sensational paragraphs in the daily papers, and now, after all, one of our leading food analysts comes forward and dissipates the whole of the fancies which this consular report has conjured up, by declaring that this mysterious herbal tincture is no herbal product at all, but the familiar German antiseptic known as formalin, with which he has always found Normandy milk heavily dosed.

There is a remote relationship with the vegetable kingdom certainly, since formic haldehyde (which is the essential component of formalin) is obtained from fusel oil, which is extracted from whisky, which in turn is obtained from malt, and grain, or potatoes, according to circumstances.

With all due respect to the worthy consul it would seem that he had been victimised more or less by the originator of this "highly condensed tincture."

VOLENITE.

Elsewhere in this issue some particulars are given of this compound, which certainly promi-es to prove a most useful article for electrical purposes.

The scarcity of rubber caused an advance in prices recently, so that cable makers and electric light contractors, at all events, will be glad to hear that a cheap and pliable insulator is about to come on the market.

In the absence of a personal examination of the article, we are possibly inclined to be rather less sanguine than Lord Lurgan, who is financially associated with it, for the claims are heavy. To produce a better insulator than vulcanite or gutta percha, which offers a higher resistance than the former and has all the elasticity of the latter, at 3d. per pound, is to do something that bids fair to revolutionise the electrical trades, seeing that vulcanite ranges from 3s. to 8s. per pound. As far as we can gather Volenite is a product obtained from the treatment of fish oils, and the opinions expressed by those competent to judge are certainly encouraging. We shall look for further particulars with much interest.

FOREIGN TRADE NOTES.

ST. MALO AND CHERBOURG.

Manures.—Consul Gurney says: I think the trade in manures should extend, and it may be doing so, for I hear of cargoes at small ports along the coast, for use in other than potato growing districts, for of course the principal portion has hitherto been used for that culture Pure guano pays a duty of 3fr. 60c. per 100 kilos, and bone-dust if it has not been used for sugar refining also pays duty, and if it has been used for that purpose, nothing. All other manures except nitrates are free when accompanied by an analysis, and manures, if of guaranteed quality, would soon gain the confidence of the farmers. There is a considerable trade at Cherbourg in artificial manures. An interesting feature of the trade during 1897 has been the power of British imported manures to hold their own and maintain their prices, by sheer force of superior quality, notwithstanding the attempts of the Franco-Belgian syndicate to close French markets to them. The Franco-Belgian firms are selling at a loss, some firms having already broken down under the strain. Norman farmers are very conservative and keep to a good thing until they find a better. A year's trial of Continental superphosphates in many cases has proved unsatisfactory. The uneven quality of manures from Germany (*via* Antwerp), Belgium, and the North of France alike is complained of. A uniform percentage of phosphoric acid cannot be counted upon.

LAS PALMAS.

Soap—Duty free; octroi, 14c. per kilo; free port due, 1 per mil on value; discharge, 10 per cent. on freight; cartage, 1s. 6d. per 10 cwts. Imports.—1895: 527,205 kilos—175,050 pesetas; 1896: 220,943 kilos; 57,990 pesetas.

This still remains a Liverpool article, probably due to its convenience for cotton and palm oil. There is much competition in the trade, almost the entire import consisting of blue mottled soap. In order to sell well it should have a fatty oily smell like yellow soap in England, and the palm oil must not be pronounced. The mottle must be pale and well streaked, and distributed evenly through the bar or mass (of which 10 go to a 25 lb. box). It must not be speckly or spotted, nor drawn to the ends in clouds of colour. The soap should be a slightly creamy yellowish tone, white bleached-looking soap won't sell, and it must not dry up too quickly on the outside, but cure well all through. It is important that the boxes be nice and clean, and care should be taken to have them stowed on shipboard away from coal, leaky grease barrels, or manure. Toilet soaps are imported from all countries shipping to here, but among English people the trade is confined to two well-advertised soaps. French strongly scented soaps in boxes of three tablets are what are generally used by such Spaniards as rise above the homely blue mottle.

Manures.—Duty, free; octroi, free; free port duty, 1 per mil on value; discharge, 10 per cent. on freight; cartage, 1s. 6d. per 10 cwts.

		Kilos.	Pesetas.
Import	1895 ..	3,226,134	523,655
	1896 ..	3,032,736	436,978
Largest importer –			
Great Britain ..	1895 ..	3,015,040	489,695
	1896 ..	2,810,828	406,518

This trade is almost exclusively British, for the reason (among others) that guanos are sold against delivery of crops in many instances, and very often an advance is granted by the crop contractor to the grower. The principal component parts of the various mixtures are: Sulphate of ammonia, nitrate of potash, ground bone, dried blood, sulphates of lime and iron, and nitrate of soda.

VENICE.

Phosphates.—So far preference has been given by intelligent agriculturists in the Venetian provinces to the British phosphates, because they were universally recognised to contain phosphoric acid soluble in water. Those imported from Belgium and France contain phosphoric acid only soluble in citrate. If what has lately been announced is true the English produce would appear to have in future to compete with a composition manufactured by Signor Angalo Scaini of Udine, who claims to have succeeded in manufacturing super-phosphates soluble in water similar to those of English origin, which also contain a certain quantity of nitrogen.

Boracic Acid.—A project has lately been presented to the Italian Parliament for the abolition of the export duty on the boracic acid which is found here. It is alleged that in consequence of the export duty the boracic products manufactured in Italy have suffered considerably, and the imposition of a duty on the importation of foreign borax and refined boracic acid, which so far are admitted free of duty, was urged. These products are chiefly imported from England.

Oils.—There was an increase last year in the import of mineral oils, which are gradually being used for lubrication instead of olive oil. These oils are principally imported from Great Britain.

British Imports.—The principal imports from Great Britain are:—Coals, coke, timber, metals, minium, quicksilver, tin-plates, fire-bricks, tallow, tar, potash and soda, stearine, vitriol, copper sulphate, and salt.

LA ROCHELLE.

Fertilisers and Chemicals.—The importation of phosphate of lime and chemical manures increased last year by 6,500 tons at La Rochelle, the greater part coming from the United Kingdom.

Pitch and coal tar show an increase of 4,000 tons, and also came from Great Britain.

THE BURNHAM PROCESS.

In connection with the new works to be erected at Ellesmere Port, on the Ship Canal, it will be remembered that it was stated in the Journal that the Burnham patents were to be worked. The *Engineering and Mining Journal*, in speaking of these patents, says:—

In the opinion of the promoters, Messrs. Fry, Everett and Company, of London and Swansea, their Burnham zinc lead sulphide process is now a working success. They have formed a big company called the Smelting Corporation, Limited, to take it over. The capital of the new Company is £600,000.; the purchase price is £430,000., payable in 350,000 shares and £80,000. in cash. Out of the remaining £170,000, available for working capital, a sum of £90,000. is to be spent in erecting a plant at Ellesmere Port capable of treating 100,000 tons of ore yearly, while £10,000 is to be spent in enlarging the works at Swansea. Since February 1st, 1897, the plant has been at work at Swansea, and 10,872 tons of ore were smelted during 11 months of 1897, with an average assay value of 31·8oz. silver, 26·3 per cent. lead, 26 per cent. zinc, and 0·015 oz. gold. The smelting profit realised is given as £9,521. Mr. August Raht has examined the process and reports that the percentage of recovery of the metals is for silver 90 per cent., lead 87 per cent., and zinc 70 per cent., and that the cost of treatment of a ton of ore of constitution such as that named above would be £2. 4s. 8d. (4·92dols.) per ton. Presumably this is meant to include the extraction of the zinc from the slags as oxide, and also the desilverization of the lead, though it is not made quite clear. The Continental patents have been bought by the West Prussian Mining Company, Limited, but as Messrs. Fry, Everett and Company have some interest in that corporation, this purchase does not constitute necessarily an independent testimony to the value of the process. The French Company of Mines and Works of Escombrera-Bleberg, has also examined the process, presumably with the view of adopting it, but the opinion and decision on this point are not stated.

The process consists of treating the ore in a furnace with sulphate of soda and oxide of iron. The lead and silver come out in metallic forms and the zinc goes away in the slag. We have always considered that the process was worth following up and working out; but we have pointed out various drawbacks, such as the short life of the furnace bottoms, the cost of recovering the zinc and the impossibility of getting salt cake cheaply to the smelting works, if situated near the mines, or alternately the cost of transporting the ore if the smelting works are situated in chemical manufacturing districts. Mr. Raht's views on these points would be interesting; unfortunately, his detailed report is not given in the prospectus, and only his figures for cost of treatment are quoted. The validity of the patent is vouched for by eminent authorities, and there seems no doubt that it will hold good, though to a disinterested metallurgist it seems clearly to be only a modification of the old caustic soda process, the difference being that the caustic soda is made in the furnace instead of being introduced as a separate ingredient of the charge.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Smoke Prevention. P Parsons. 7,412. March 28.
Electrical Production of Carbides, etc. H. Aschermann. 7,423. March 28.
Refining Metals, etc. J. Baxeres de Alzugaray. 7,426. March 28.
Washing Compound. M. E. B. Leeds. 7 428. March 28.
Electrolytic Apparatus. W. L. Wise. 7,470. March 28.
Electrolytic Apparatus. W. L. Wise. 7,471. March 28.
Concentrating Solutions of Alkaline Cyanides, etc. G. T. Beilby. 7,509. March 29.
Decolourising and Purifying Liquids. P. Pessé. 7,561. March 29.
Apparatus for Manufacture of Acids. P. A. Newton. 7,565. March 29.
Electric Carbide Furnaces. W. P. Thompson. 7,574. March 29.
Electric Carbide Furnaces. W. P. Thompson. 7,575. March 29.
Artificial Stone. A. N. and W. Brooke. 7,634. March 30.
Improved Soap. W. S. Thompson. 7,651. March 30.
Manufacture of Candles. N. A. Alexanderson. 7,671. March 30.
Converting Bisulphates into Caustic Alkali. J. Grossmann. 7 726. March 31
Electro-deposition of Metals. J. H. Hope. 7,764. March 31.
Preserving Calcium Carbide. E. S. Bond 7,791 April 1.
Purifying Oils, Syrups, etc. R. A. L. Hill. 7,808. April 1.
Removing Phosphorus and Sulphur from Iron, etc. J. Baxeres de Alzugaray. 7,821. April 1.
Insulating Composition. P. Mallison. 7,848. April 1.
Making White Lead and Lead Oxide. E. Bailey and G. R. Cox. 7,877. April 2.
Manufacture of Combined Iron and Nickel. G. G. and H. A. Blackwell. 7,933. April 2.
Making Coke and Saving the Bye-products. P. Naef 7,951. April 2.
Making Coke and Saving the Bye-products. P. Naef. 7,952. April 2.
Making Coke and Saving the Bye-products. P. Naef. 7,953. April 2.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in or Relating to the Utilisation of Waste Products from Metallurgical Furnaces and the like. A. J. Boult, 111, Hatton-garden, London (communicated by H. L. Hartenstein, of Bellaire, Ohio, and G. A. Weber, 81st and Wallace Streets, Chicago). Eng. Pat. 224. January 4, 1898.

Molten slag from the furnace is run into a vessel much like a Bessemer converter, but shaped internally so as to form two baths, into which the molten slag runs as the converter is revolved. In the one, gas under pressure is forced through the slag, while powdered coke (about 1 part to 3 slag) is also automatically introduced. When the impregnation of the slag is completed, the gas is cut off and the converter revolved so as to run the slag into the other bath, where it forms part of an electric circuit. The coke reduces the resistance of the slag, and, being distributed through the mass, forms a great number of poles, between which innumerable electric arcs are formed. The heat thus generated converts the mixture into carbides of calcium, aluminium, and silicon, acetylene being liberated from the product by adding water. When the formation of the carbides is completed, the molten mass can be run off into moulds by revolving the converter. There are seven figures.

Improvements in the Manufacture of Ammonium Nitrate and other Salts. W. Garroway, Netherfield Chemical Works, Duke-street, Glasgow. Eng. Pat. 7,066. March 18, 1897.

A mixture of nitrate of soda or potash, and sand or powdered flints, is heated in a muffle furnace, fitted with a spiral conveyor. When sufficiently heated, super-heated steam is blown into the retort. The nitric acid given off is conveyed to a condenser, and the resulting alkaline silicate dissolved out from the residue and concentrated. The gases passing from the primary nitric acid condenser are mixed with ammonia gas, obtained from any convenient source, and passed through re-action towers, forming ammonium nitrate. As an excess of ammonia is usually employed, the excess is caught in the last tower down which weak vitriol passes. There are five figures.

Improvements in the Manufacture of Charcoal. W. A. G. von Heidenstam, Skonvik, Sweden. Eng. Pat. 9,656. April 15, 1897.

The material is forced through longitudinal retorts of considerable length, heated in a suitable manner. The charring goes on continuously, the material being forced forward. In this way it is more or less compressed, forming a hard and compact charcoal. In consequence wood chips, peat, etc., can be successfully charred. As the products of the dry distillation are given off at different points in the retort, separate pipes are provided, and the products removed before they have time to decompose. There are three figures.

Improvements in the Manufacture of Red Oxide from the Waste Liquors from Galvanising Works, Tin Plate Works, Wet Copper Process, or other Residual Liquors containing Iron in the form of Chloride. T. T. Sill, Weston, Runcorn. Eng. Pat 10,509. April 27, 1897.

The liquor is neutralised with scrap, and the iron precipitated as hydrate with lime, carbonate of soda, or other suitable compound. It is necessary to avoid an excess of the precipitant, thus leaving from 50 to 150 grains of iron per cubic foot in the liquor, otherwise a good tint is not obtained in the finished product. The hydrate is then oxidised by exposing it to the air on a drying bed. It is next washed free from chlorides, etc., and finally the oxide is roasted in a muffle furnace until the required tint is obtained.

Improvements in the Manufacture of Antiseptic Soaps containing Mercury Albuminate. R. Ehrhardt, Volkartstrasse 12', Augsburg, Bavaria, Eng. Pat. 2,407. January 29, 1898.

The object is to keep the mercury compounds present in a soluble form Mercuric casein is therefore mixed with the soap, instead of bichloride of mercury. Any other albuminate soluble in alkali can be used. The casein compound is prepared by suspending 40 parts of free casein in alcohol and boiling with 8 parts of mercury bichloride at 100°C. The albuminate is then thoroughly mixed with the caustic lye used in saponification.

Dick's Asbestos Co.—This company, whose works are at Canning Town, announce that they have taken offices at Nos. 51 and 52, Fenchurch-street, E.C.

More Russian Petroleum —It is announced from Baku that a new spring has been discovered in the petroleum district producing 500,000 poods of naphtha daily.

Manganese in the Caucasus.—A deposit of manganese ore recently discovered and opened near Tchiatouri, in the government of Koutaisk in the Caucasus, is said to be very rich, analyses made at St. Petersburg showing from 79·8 to 86·2 per cent. of manganese oxide $(MnO)_2$.

Nitrate Statistics. — The Permanent Nitrate Committee's Public Statistical Circular for April shows:—Total exports to Europe, March 1,312,000 quintals; loading for Europe 1st April, 1,002,850 quintals. Imports Europe, March, 195,970 tons. Deliveries Europe, March, 216,090 tons. Visible supply. Europe, 1st April, stocks and afloat, 392,830 tons.

The German Agricultural Exhibition.—The Board of Agriculture have been requested to state that the annual exhibition of the German Agricultural Society will be held this year from the 16th to the 21st June at Dresden. Foreigners will be admitted to compete in the sections of agricultural machinery, fertilisers, and feeding stuffs, but the section for animals will be restricted to exhibits bred in Germany.

Fire at a Soap Works.—A fire broke out on Wednesday at the Thames Soap Works, Brentford, Middlesex, belonging to Messrs. Thomas B. Rowe and Co. The outbreak occurred in the melting-room, which was well alight before the fire was discovered. Help was soon forthcoming, and three engines arrived from neighbouring stations. The fire was confined to the melting-room, which was totally destroyed.

Soap in Guayaquil.—There is a native factory for soaps, with free importation of materials for its manufacture, and this tends to keep down the price of imported soap. The exemption from import dues expires this year, but efforts are being made to get it renewed. It is also proposed to erect a new factory in Bahia de Caraquez, by a syndicate in the United States and some Bahia merchants. A kind of black soap of a very cleansing quality is manufactured throughout the country in a primitive manner and to a very small extent.

The Salt Trade.—The official returns of the salt trade show that the industry was greatly depressed during the month of March. Only 39,531 tons were exported from all ports in the United Kingdom, as against 70,763 tons in the corresponding month of 1897. With regard to the Cheshire trade, Liverpool has exported 36,748 tons, or 12,343 tons fewer. Runcorn, Weston, and the Manchester Ship Canal have only exported 819 tons, as against 1,421; but the deficiency is more than met by an improvement to the extent of 1,900 tons in the coastwise shipments, due to increased quantities taken by Scotland and Ireland.

Reports of Companies.

FISH OIL AND GUANO SYNDICATE, LIMITED.

An extraordinary general meeting of the Fish Oil and Guano Syndicate, Limited, was held last week, in the Molesworth Hall, Dublin, to consider and, if approved, confirm as special resolution the resolutions passed at the meeting of the syndicate held on March 15th. Lord Lurgan presided.

The Chairman said: In the first place, I wish to say it gives me great pleasure to meet you here, especially in such large numbers. This is a formal meeting, and is necessary to confirm the resolution which was unanimously passed as to changing the capital of the company—in fact, changing the original syndicate with a capital of £40,000. into the new Fish Oil and Guano Company with a capital of £250,000. I wish, first, to formally move the resolution which was discussed at the last meeting, and after the resolution is moved and, I presume, carried, I will take the opportunity to tell you how we stand as to our deals, and also to say a few words on a subject that will interest you a good deal, namely, Volenite.

SUBSIDIARY COMPANIES.

After disposing of this business the Chairman, proceeding said: Another thing I have to tell you about is the South African deal, the provisional contract for which was signed recently, and unless any unforeseen circumstance, like war, intervenes, and causes things to go so wrong that we cannot bring it out, that company will be issued by the 21st of this present month. I now hold in my hand the prospectus, which is absolutely complete, and anyone who desires to see it can do so. The capital is £100,000. in 100,000 shares of £1 each. The Board consists of myself, Admiral Sir Henry F. Nicholson, K C.B. (late Commander-in-Chief at the Cape), H. W. Maynard (director of the Union Steamship Company, Limited), Major J. Roper Parkington, J.P., and Mr. George V. Sims. We have had several meetings of this Board, and I am pleased to tell you that we could not have a better or more representative board for this company. Two gentlemen, particularly, will be most useful to us. Admiral Nicholson has been for years at the Cape, and Captain Maynard goes there frequently, and also knows it well. Out of the £100,000. we are to receive £25,000. in shares and £10,000. in cash. The working capital is to be £35,000., and I may say that all the necessary working capital and cash consideration has been guaranteed; so that it will not be necessary to apply to any of our shareholders or any body in Ireland for any money. But I need hardly say, on the other hand, that if any shareholders or other persons in Ireland wish to participate or to become shareholders in this company, their applications will receive every consideration.

There are several other deals that we are negotiating for. The first is for the Russian Fisheries Company. A rough draft of the prospectus of that company has been printed and gone into carefully by us. It will have a capital of £500,000. Practically speaking, nearly all the details are complete; but I think you will all agree with me that, in consideration of the state of affairs in the East, and the generally unsettled aspect of affairs out there, it would be unwise and impolitic to press that matter; therefore, it will stand over until the political aspect is a little clearer.

Then, we are negotiating for one in Italy, which is very nearly completed, and Norway and Sweden, on which we have just received a complete report, conveyed by two gentlemen who were sent out there to report for us. Then, again, there are India, Newfoundland, and last, but not least, England and Scotland. The latter is in a very forward condition, and will be a company of large dimensions. I think that is enough now with reference to the future deals with other countries.

I NOW COME TO VOLENITE.

In the first place, I must thank you, on behalf of the directors and myself, for the patience you have shown and the trust you have reposed in us with reference to the delays, which have been unavoidable, on this subject of volenite. However, I think that after what I am about to tell you, you will agree with me that this trust and patience have been rewarded. At the meeting in February I tried to reassure the shareholders, and begged them not to be led away by the various rumours and stories that got into circulation for various purposes. Notwithstanding this, I am sorry to say I am afraid there have been some timid shareholders who are not now the possessors of so many shares as they were then, and I am afraid that they will regret the change in their position. We have always, as directors, I think you will admit, tried to take you into our confidence to the utmost of our ability; at any rate, that has been our intentions. Efforts have been made to lower the shares—I do not want to say for what purpose it was done—and absurd stories have been circulated as to tests of volenite which it is stated were made. No true specimens of volenite have ever been seen in Dublin before to-day, and it is not necessary therefore to tell you here of what value these so-called reports and tests on volenite are. As I say, no true specimen has ever been seen in Dublin; but certain specimens of volenite were on this table at the former meeting which were merely brought for the purpose of showing the appearance of the material, but were not made for electrical purposes or anything of the sort. They were made for mouldings and that sort of thing, and were not like the volenite now on the table.

In February I remember telling you that we could make hard volenite, and that the acme of our ambition was to make pliable volenite. We have arrived at the acme of our ambition, for

WE CAN NOW MAKE PLIABLE VOLENITE.

The tests prove it to be equal to gutta percha and superior to vulcanite. Its electrical resistance is really extraordinary. I have got some samples here, and I have also some reports which I propose to read to you if you will permit me. Before reading these reports I wish to point out that, as you well remember, in February I told you we were arranging for certain tests as to the possibility of covering cables with this material. It has been well pointed out to us, and very truly so, that tests or experiments for the purpose of covering cables are no good unless you give them a trial of from ten to twelve months. We seriously considered whether we would wait ten or twelve months before producing volenite at all. With reference to this, however, I may mention that a large firm for the manufacture of cables has asked to be supplied with sufficient to cover one mile in length of one of its cables. They intend to lay this cable, covered with volenite, entirely at their own expense, and have offered, if the result be satisfactory, to give us an order for our entire output. Besides cable and electrical uses, we also set to work to find out what other uses and purposes volenite might be applied, and we discovered that volenite was just as valuable an asset for the purpose of steam-jointing and packing as it was for electric cable-work, and in view of its use for various purposes, we decided that we were justified in issuing the company at once. I may tell you that Volenite, Limited, will be registered forthwith.

A number of reports and letters were then read, from which we extract the following:—

Mr. Pope, Electrical Engineer, of Colwyn Bay, reports:—"On March 31st, I tested a piece of flexible volenite that I cut out of a sheet 0·075 of an inch thick, specially made for electrical purposes, and found that it withstood a pressure of 70,000 volts for one minute and a quarter, and then punctured. I next tested a piece of hard volenite 0·055 of an inch thick, and found that it would not puncture with 70,000 volts. The actual piece enclosed herewith. I next tried a piece of the best ebonite I could obtain, 0·033 of an inch thick, or three-fifths the thickness of the hard volenite last tried, and found that it punctured immediately with between 10,000 volts and 15,000 volts."

With regard to its resisting the action of sea water, etc., Mr. J. W. Bevan, F.I.C., reports:—"I have made a most careful and exact series of tests with the pieces of volenite. I have much pleasure in informing you that for all practical purposes it is impervious to moisture and indestructible in water. I have had it soaking in water, sea water, and several solutions of salts, including chloride of sodium, chloride of magnesium, and carbonate of potassium, magnesium and sodium. The highest increase in weight was 2 per cent, and even this small increase may be due to adhesive moisture that I could not thoroughly remove with blotting paper. I conclude that it takes up little, if any water, and in this respect is equal to the best guttapercha."

Mr. G. T. Harrop, A.M I.C.E., reports:—"I have been present at a trial of the volenite steam-joint material. The apparatus on which the test was made was equivalent to an ordinary steam-joint to a 4½ pipe; but the joint itself consisted of a ring only ¾ in wide and 1 millimètre thick. The pressure was raised to over 300 lbs. per square inch, and maintained there for some considerable time without the slightest leakage. The joint was afterwards broken, and the material was found to be in a satisfactory condition; in fact, had it been thicker I consider the joint might easily have been remade with the same ring. From the evidences of these tests I consider that the material is eminently suited for a steam joint, even with the highest pressures in use at the present day, and that it should find a very large and profitable field of usefulness."

The Volenite Company, when formed, will be a manufacturing company, so far as the United Kingdom is concerned. Volenite can be made at

THREEPENCE A POUND,

as compared with 3s. to 8s. per lb. for vulcanite. It is not decided yet whether we shall increase our capital and make it a manufacturing company for the world. The chances are that we shall make it for the United Kingdom, and sell our patents to the other companies. I may say we have already had an offer for the American rights of volenite.

After having explained satisfactorily the cause of the delay in getting a Stock Exchange quotation for the American Fisheries Co., the Chairman pointed out that as regards the working of the American Fisheries Co., the directors over there are doing their utmost; new plant is being erected, and quite recently a new property has been acquired on the Gulf of Mexico at the cost of £26,000., and Mr. Searles and all connected with the company report very favourably as to the prospects.

THE DEMAND FOR GUANO.

I have observed a statement in the papers that in the event of our bringing off all our deals, the supply of fish oil and guano will exceed the demand. I need hardly say that that is a ridiculous statement. Quite recently a firm offered the Fish Oil and Guano Company £6. 10s. per ton for 12,000 tons of guano after receiving a sample of it. As all our calculations are based on our getting £5. a ton, I think you will admit that we are going on a fair and reasonable basis.

THARSIS SULPHUR AND COPPER CO., LTD.

The report of the directors for the twelve months ended December 31st last states that the total quantity of minerals raised at all the mines during the year has been 565,949 tons (exclusive of cupreous sterile), against 557,577 tons in 1896, an increase this year of 8,372 tons. The increase has been entirely of ore for export, the quantity laid down for local treatment being rather under that of 1896. The slight decrease under this last head, however, has been more than counterbalanced by the much larger quantity of cupreous sterile deposited at Calanas, as already referred to. The production of copper at the mines was favourably influenced last year by an increased rainfall. At Tharsis there were 34·69 in., against 13·15 in the previous year, and at Calanas 28·27 in., against 12 99 in. These figures for last year are rather over the average; but it must be noted that a large proportion of the rain fell in the last three months of the year, and, as a matter of fact, at Tharsis the supply of water for a great part of the year was very inadequate. At Calanas, however, the large reservoir recently constructed proved of good service, no scarcity of water being experienced there. As all our reservoirs have been well filled by the rains of the winter months, our water supply for the current year may be considered assured. In all departments the work at the mines has again been prosecuted with zeal and efficiency. The costs of production were last year the lowest on record; and looking to the results obtained, as well as the difficulties successfully dealt with from time to time, the directors consider that they have good grounds for satisfaction with the ability and energy with which operations at the mines continue to be carried on. A large increase in the traffic by rail has again to be reported, the quantity of ore brought down from the mines for shipment being largely in excess of the previous year. There has also been an increase in the public traffic by the carriage of manganese ore, and otherwise. The net profits for the year ended December 31st, 1897, together with the balance of £15,708. from 1896, amounted to £326,665. The directors recommend a dividend of 10s. per share, equal to 25 per cent on the capital, free of income tax, payable on or after Tuesday, May 10th next, carrying forward a balance of £14,165.

RIO TINTO MINERAL OUTPUT.

THE directors of the Rio Tinto Co., Ltd., in their annual report give these particulars of the production at the mines:—*Pyrites*: The quantity extracted during the year was for shipment 575,733 tons, and for local treatment 812,293 tons, a total of 1,388,026 tons, with an average copper contents of 2·810 per cent. The quantity invoiced to consumers in England, Germany, and the United States was 582,540 tons, against 549,585 tons in 1896, 518,560 tons in 1895, and 485,441 tons in 1894. The *copper* produced during the year by treatment at the mines was 20,826 tons, and the copper in pyrites shipped amounted to 13,098 tons, a total of 33,924 tons. The following quantities of copper were brought to market, viz: Refined copper, 19,894 tons; copper in sulphate of copper, 1,050 tons; and copper in pyrites, 12,487 tons—a total of 33.431 tons. The stocks of copper at the company's works at Cwmavon, consisting of refined copper, copper in process, precipitate, matte and sulphate of copper (in all 4,896 tons) have been carried over at cost price. There are now 111,406 tons of fine copper in the reserve heaps, which stand in the company's books at £4. 6s. 10d per ton fine, and the production from this important source continues to be satisfactory, at a low cost. The works at Cwmavon have been carried on to their full capacity, and have turned out the largest quantity of refined copper (20,038 tons) yet produced by the company in any one year. The quality of the copper has been excellent; the brand is in high repute and commands the best price in the market. The railway and pier have both been maintained in good order, and the relaying of the permanent way on the main line, which it has been decided to renew throughout its entire length of 53 miles, has in the past two years been carried out to the extent of 20 miles. The facilities given to the public by throwing open the line have been much appreciated, and the profit to the company has largely increased. A deputation from the board paid the annual visit to the mines in January last, and after looking very carefully into every department of the work, found that all the business of the company was carried on in a most satisfactory manner.

THE INDUSTRIAL NORTH.

THE CHEMICAL INDUSTRY.

UNDER the above heading the *Times* has published intermittently a series of articles on the industries of the North. In the fourteenth of this series the alkali trade has been reached. The Leblanc and ammonia-soda processes are described, and also the subsidiary industries of dealing with the bye-products. After reviewing the history and developments of the alkali trade down to the present time, the Commissioner makes the following remarks concerning changes that are imminent, and the outlook for the future:—

Perhaps the question of greatest interest in the chemical trade now is whether the decline of the Leblanc soda process will be permanently limited by the fact already referred to—that that process evolves on a large scale and in an available manner the hydrochloric acid required for the manufacture of bleaching powder. In other words—Is there any likelihood that bleaching powder, and other chlorine products, will come to be produced more cheaply than as an offshoot from the Leblanc soda process? Until quite lately the chlorine in the salt decomposed by the ammonia-soda process was practically lost. The ammonia in this process has for many years been "recovered" from the ammonium chloride, which is the residual product of the Solvay towers after the bicarbonate of soda is secured. The "recovery" of the ammonia, which is used over and over again, is made by the aid of lime, and the ultimate residue is therefore calcium chloride. In a very interesting address delivered by Dr. Ludwig Mond as president of the Chemical Section of the British Association in 1896, a description was given of an extraordinarily ingenious process by which, with the aid of magnesia and potassium chloride, instead of with lime, both the ammonia is "recovered" as before and the chlorine is made available for use in the manufacture of bleaching powder. Elaborate though this process is, Dr. Mond said that it had fully attained his object of enabling the ammonia-soda process to compete, not only in the production of carbonate of soda, but also in that of bleaching powder, with the Leblanc process. At the same time, he added that he had hesitated to extend the new process as rapidly as he would otherwise have done because of the possibilities involved in the processes lately developed for the production of chlorine by electrolysis.

ELECTROLYTIC PROCESSES.

At that time no electrolytic process for the production of chlorine was in commercial operation in this country, and it was, perhaps, not firmly established anywhere else. Now, however, the electrolysing of brine or of potassium chloride, with the result that chlorine and caustic soda or caustic potash are understood to be immediately available, is carried on to such an extent in Germany that more than all the demand for bleaching powder in that country is met by electroyltic works Indeed, a large quantity is already exported, some even into England. Further, within the last year or so an electrolytic works has been started at Weston Point, near Runcorn, on the Mersey, which is undoubtedly producing bleaching powder in substantial quantity, and which, in December, 1897, forced down the prices by about a pound a ton below what, without its intervention, would have been the current rates. Permission to see the Weston Point works was refused me—an experience almost solitary in the course of my inquiries on behalf of *The Times*—the firm saying that they were extending their plant, that their works were in disorder, that all other applications have been for the present refused, and that I should be welcome next summer. That being so, I cannot attempt any account of the electrolytic process there conducted. At St. Helens an electro-chemical works is in operation, and, I am told, is producing bleaching powder, chlorate of soda, and caustic soda. There are also other electrolytic processes, such as the "Hargreaves-Bird" and the "Rhodin" processes, the development of which in this country is believed to be a matter of the near future. Speculation as to their future is fascinating; but I do not feel able to say more than that, while they may produce the chemical results desired with singular directness, the question of their commercial success must depend upon the frequency with which essential parts of the plant have to be renewed, and that upon that point few persons are as yet in a position to form a judgment. The same remark applies to an extremely interesting electrolytic process invented by Dr. Hoepfner, which I had the privilege of seeing at Messrs Brunner, Mond's, where it has only recently been brought into operation. It is led up to by utilising the calcium chloride—which is the present ultimate residue in the ammonia-soda process—for the production, with zinc oxide, of chloride of zinc in solution. The solution of zinc chloride is run into cells, through which an electric current is passed, with the result that the zinc is deposited in a chemically pure state on iron plates, from which it is subsequently removed and then melted and run into ingots, and the chlorine is drawn off to be utilised for the production of bleaching powder.

THE FUTURE OF THE TRADE

is full of interest, but few, even of the most learned, will venture to forecast it with any confidence. In the main, however, it is satisfactory

to know that the course of its development, especially within the last few years, under the combined influence of the rivalry of different processes, of the steady pressure of the alkali inspectors, and also of a keener sense of the responsibilities of capital, has been to make chemical manufacture less disfiguring to the neighbourhoods in which it is seated, and less disagreeable and more healthy for the workmen engaged in it than it used to be. The gases emitted from ammonia-soda works have never destroyed vegetation in the manner so notoriously evidenced in regard to Leblanc works by the desolate appearance of Widnes and its immediate surroundings. But happily the improvement in administration and in standard of plant used under the *régime* of the United Alkali Company, has led to an observable diminution in the emission of noxious gases from the chimneys of works under their control—so much so, that the growing of grass, flowers, and trees has ceased to be a hopeless undertaking at Widnes. The same causes have led to an appreciable diminution in the liability of the workmen employed to inhale poisonous or irritating gases. Much of the work, indeed, is still attended by more or less unpleasant odours, and they combine with the heats connected with several of the operations to render the workman specially open to temptations to drink when he has the chance. The packing of bleaching powder, I am convinced, has in the past caused breakdown of health, and even premature death, in not a few cases of persons whose bronchial tubes, being naturally irritable, were brought into a condition of chronic inflammation by frequent whiffs of offensive and pungent chlorine gas.

EFFECT ON HEALTH.

But the general effect of the medical opinions I have obtained is to support the view that, with vigilant care, which, of course, is most essential on the part of the management, and also of the men themselves, bleach-packers, if they have no constitutional delicacy and if they live temperately, do not generally appear to suffer at all considerably in health from their occupation. With them, and with the workers in some other departments in Leblanc works, while carelessness and excess are specially apt to produce immediately or rapidly serious consequences, these faults are also specially liable to be induced by the conditions of work. These conditions, however, have improved, and, on the whole, the result of my inquiries is the opinion that a population very largely dependent, as at Widnes, upon Leblanc soda-works compares not unfavourably in health, morals, and manners with those of ordinary factory towns. The United Alkali Company, it is satisfactory to know, have given considerable attention to the subject of rescue appliances for cases where men are overtaken by accidental outbursts of noxious gases.

HOURS OF LABOUR.

A serious drawback to employment in some departments of chemical works lies in the fact that it goes on, week in, week out, with no Saturday half-holiday, and with Sunday rest only obtained at the cost of excessive spells of work on alternate Sundays, when the shifts are changed. At the United Alkali Company's works this happens in the case of about 22 per cent. of the men. The continuity of operations in the departments in question is doubtless essential; but it is equally beyond doubt that the absence of the ordinary Sunday rest is a great disadvantage to the men, both religiously and socially, and when the regular working day lasts for half the twenty-four hours that disadvantage is materially enhanced. It is right to state that at the works of the United Alkali Company the eight-hour shift has, for some years, been in operation at the "salt cake" furnaces, with benefit both to the men engaged in that arduous work, and to the company. The bleach-packers always work specially short hours. At Messrs. Brunner, Mond's, while there is a good deal of Sunday work, the eight-hour day prevails throughout all departments. I am assured that its results are economically satisfactory in the case of the process-men. The improvement which the shorter hours have secured in their health and spirits has been accompanied by a corresponding and, to their employers, advantageous development in their zest for and attention to their work. Among the labourers, it is true, the eight-hour day has not killed shirking and dawdling, but the indications appear, on the whole, promising. Labourers, as well as process-men, have improved much in respect of the punctuality and regularity of their attendance, and the standard now reached throughout the works in that respect is very high. This is shown by the fact that in 1897 90 per cent. of the labourers and 97 per cent. of the process-men at the Northwich establishment enjoyed the privilege of a week's holiday with a week's (or, to be quite accurate, six days') pay, which Messrs. Brunner, Mond give each year to those of their men who in the preceding year have lost only four days' work without satisfactory explanation. As to wages, as might be expected, the process-men under the United Alkali Company at Widnes appear to run rather higher than at Northwich, 4s. 6d. to 5s. 6d. a day being a fairly common wage with them, while at Messrs. Brunner, Mond's the majority of the process-men earn only 3s. 9d., though the more responsible and skilful ones are rated up to 5s. or 5s. 6d. On the other hand, the labourers at Widnes, who are much more numerous actually and proportionately than at Northwich, earn only from 17s. to 18s., while at the latter works they receive 20s a week.

THE AMERICAN BAUXITE INDUSTRY.

[By W. M. Brewer.]

In the year 1897, the seventh since the discovery of bauxite in Alabama and Georgia, the shipments were about 20,000 tons. New discoveries and deposits are now rarely recorded. During 1891 and 1892 the sections in which the discoveries were first made were very thoroughly exploited by prospectors, and most of the workable deposits known to-day were located; but since then little change has been noticed with regard to new discoveries or the organisation of new companies until within the past twelve months. Previous to this the main feature of progress in the industry had been the establishment by some of the shippers of washing and drying plants. By this means the Georgia Bauxite Company, which was organised in 1895, was enabled to utilise several hundred tons of bauxite from the waste dumps left after screening.

During 1897 another corporation was organised, the American Bauxite Company, of Rome, Georgia. This has entered the field as a shipper; it purchased bauxite properties in Floyd County, Georgia, and erected a washing and drying plant for the preparation of the ore. There are now engaged in the mining and shipment of bauxite four companies:—The Republic Mining and Manufacturing Company, Rock Run, Ala., the Hermitage, Ga.; the Georgia Bauxite Company, of Linwood, Ga.; the Southern Bauxite Company, Cave Springs, Ga.; the American Bauxite Company, Rome, Ga. The properties owned and leased by these companies do not comprise the entire area of the bauxite belt, because in the south-western portion of Calhoun County, Ala., the Alabama Mineral Land Company owns several tracts on which bauxite has been discovered, and on some of which the mines have been developed to a limited extent. Continuing up the belt to the north-east, the workable deposits which show a commercial value are in Cherokee County, Ala, on the property of the Rock Run Iron and Mining Company (these are leased by the Republic Mining and Manufacting Company); adjoining these in the same county are the mines owned by the Southern Bauxite Company. Towards the north-east, across the line in Georgia, there are occurrences of the mineral in workable deposits at and near Cave Springs, in Floyd County, some of which are owned by the Southern Bauxite Company, others by several individual owners; next, in Vann's Valley, in Floyd County, nearly all of which are owned by the original owners of the land on which the deposits were discovered; further to the north-east the properties recently purchased by the American Bauxite Company, in the neighbourhood of Rome, in Floyd County; still further north-easterly the deposits at Hermitage, or Ridge Valley; next to these come those in Bartow County on the Barnsley estate; some indications have been discovered near the Trion Cotton Factory, and also near Summerville, Chattooga County; and beyond these are the Kawkins or Armington mines in Walker County.

The Cherokee County deposits, in Alabama, have produced up to the present time the greatest quantity, the works of some of the mines having been carried to a depth of about 100ft. The mining has been done in open cut, and by benching. At some of them, where the greatest depth has been attained, work has been temporarily suspended because mineral could be extracted from other deposits nearer to the surface and at less expense. While the structure of the deposit is pocketty, like that of the brown ore (limonite) deposits, yet so far there are no indications of possible exhaustion in the near future. In such mines as have been worked to a considerable depth the question of cost in the future will be an important factor, before outlays for pumping and hoisting machinery are made.

So far the capital invested in machinery and mining plants has been limited to the smallest amount possible, because with the limited knowledge as to permanency of the deposits it was not advisable to invest larger amounts to carry on operations. For two or three years after the industry had been established, the companies merely erected drying sheds, where the ore was stored for some weeks previous to shipment and dried by the air and sun. As the business became larger and competition keener artificial driers were put in. The Republic Mining and Manufacturing Company, the pioneer in the business, uses a drying kiln designed by Mr. Hawkins, the superintendent, which is simply a revolving cylinder 30ft. long, through which the ore passes and is sufficiently dried by the heat of the furnace located under the cylinder. The other companies employ either some similar device or a Davis-Colby drier and roaster, somewhat modified from that designed for roasting iron ore.

The object in preparing the ore by artificial drying process is to eliminate all the water and moisture absorbed as well as a portion of the quantity chemically combined with the alumina and other elements, but it is not desired by buyers that all the water in combination should be eliminated, and it depends upon the purpose for which the bauxite is to be used what proportion of this water should be taken out. Consequently the roasting or drying process has to be watched very carefully. Indeed, the business of handling bauxite is one in which expert chemists have to be employed, because of the variations in the grade

of ore even in the same mine, and apparently in the same stratum, which cannot be detected by the eye, no matter how experienced an operator may be.

During 1897 an export trade was established and a large quantity of bauxite was shipped during the year by the Southern Bauxite Company to meet the demands in the foreign market.

The prices of bauxite have declined from £2. a ton in 1891 to 28s. 6d. per ton. As railroad freight has to be paid from the mines to Pennsylvania, New York and other points in the East, the rate being over £1. per ton, it is not surprising that there is no greater competition in this industry; especially when the limited demand is taken into consideration.—*Engineering and Mining Journal.*

THE ROCK SALT DEPOSITS OF NORTHWICH.

MR. THOMAS WARD, of the Salt Union, Ltd., contributed to the Manchester Geological Society at its meeting on Tuesday a second paper "On the Rock Salt Deposits of Northwich, and the results of their exploitation." In the first paper (read June 15, 1897) the upper bed of rock salt was chiefly dealt with; the second bed—in which all mines for over a century have been sunk and worked—Mr. Ward stated, is not so clearly defined. It is known, however, to underlie not only the whole of the upper bed, but a further considerable area in all directions. He defined the limits, so far as they have been ascertained, of this lower bed. As far as proved, the area of the salt beds in the Northwich district is about four square miles. There is a little uncertainty as to the northward extension, but as the quantity of marl mixed with the salt increases towards the North, there is every probability that the beds soon die out in that direction. Mr. Ward estimated the quantity of salt which has been taken from the mass forming the Northwich deposit at over 40,000,000 tons; and it was, he said, with the results of this abstraction that he had now mainly to deal. These results might be summed up under the following heads:—1. Subsidences caused solely by brine pumping; 2. Subsidences resulting from mining; 3 Subsidences resulting from a combination of mining and brine pumping. The constant removal of brine, for the purpose of abstracting the salt it contains by means of evaporation, and its constant replacing by fresh water (which quickly saturates itself) lead to the gradual lowering of the salt bed and the sinking of all the overlying earths. It is this kind of sinking which so seriously affects the town of Northwich and works such havoc with houses and other property. If the water attacked equally the whole area of the salt the land would sink equally, and beyond the general lowering of the level little or no damage would be done. This, however, is not the case. Each pumping centre sets up a flow towards itself, which follows the line of least resistance. The water, following this defined course, rapidly eats itself a channel, which widens and deepens, and the overlying earths follow this channel and repeat on the surface the channel made below. Anyone visiting Northwich, and passing through Witton-street and High-street, also along the lower portions of Castle, Winnington, and Leftwich, as well as along Warrington-road, may easily see the hollows in the roads, and cracked and sinking houses on either side. These sinkings, when they occur in fields, may be recognised by pits and hollows, in which the water remains instead of draining away. Under the second head—that of subsidences from mining—Mr. Ward entered into particulars as to the mode of working in the early part of the century, and showed how the insufficiency of the pillars, and their fewness, caused a "creeping" of the roof. There was a striking instance of this at a mine belonging to John Blackburne & Co., at Wincham. The pillars were crushed by the superincumbent mass, and water, dripping down the shaft and running under the "sole" of the mine, found its way under the pillars and ate away the salt. In 1830 the mine was declared to be dangerous; in 1833 the roof had fallen and buried a miner; the water had got in and flooded the mine. From that time onwards mine after mine in the neighbourhood collapsed and became filled with brine. But in a case like this, unless the brine is pumped out and fresh water takes its place, and saturates itself on the surrounding rock salt—being in its turn also pumped out,—all danger of subsidence is past after the first influx of water has become saturated with brine. There are mines, isolated from the general body, which have been filled with water for over half a century, without any change on the surface being perceptible, other than what has been caused by the pumping of brine from the rock head. In cases, however, where brine has been pumped from the disused and flooded mines surface subsidence has in course of time become apparent, and the continued pumping has led to a complete collapse and the forming of lakes or "flashes" of great depth. The subsidence of 1880 in the Dunkirk district was by far the largest that has ever occurred. Its results were disastrous. In 1893 another change took place. The quantity of brine pumped out of the Dunkirk mines was enormously increased. The land began to sink more rapidly, and very soon the lake which had been gradually forming approached the shafts of the Platt's Hill Mine. The old mines were pumped down, and the Platt's Hill Mine collapsed, forming a hole about 90ft. by 15ft. Shortly afterwards the land sank sufficiently to let in the water from the neighbouring lake. No sooner had the water got a free passage to the Shafts of Platt's Hill, and through them to the mines below, than the most serious destruction of land commenced. A lake was formed of over 20 acres. The Marston or Neumann's flash is over 12 acres. Both these lakes are extending. There are ten flooded mines, all connected, in the Marston district, and these cover an area of more than 60 acres. There are also ten in the Dunkirk district, covering about 60 acres Between these two sets of mines, so similar in area, there is for a long distance only a narrow barrier of rock salt, which at any moment may be penetrated by the fresh water. The barrier has already once been pierced. Mr. Ward remarked, in conclusion, that there were few places where the action of water could be more plainly seen than in the neighbourhood of Northwich. What was taking place violently and in a short time by human agency in Cheshire had almost certainly taken place naturally and during the course of ages in districts similarly situated.—A discussion followed, which was taken part in by Mr. Dickinson (who presided), Mr. Gerrard (H.M. Inspector of Mines), Mr. Stirrup, Mr. C. E. De Rance, of the Geological Survey, and other gentlemen.—Mr. De Rance also exhibited a six-inch map of Northwich, showing by underground contour lines the actual surface and shape of the upper and lower rock salt beds; and a longitudinal section from Wincham through Northwich to Winnington, showing the details of the various exploration boreholes, etc.

SOCIETY OF CHEMICAL INDUSTRY.

SCOTTISH SECTION.

THE fifth meeting of the section took place on Tuesday, April 5th, in the building of the Glasgow Philosophical Society, 207, Bath-street, and thus forming a return to the old place of meeting for Glasgow, which, through an inadvertence, was temporarily vacated about a year ago. The gathering of April 5th being the annual business meeting, office-bearers were elected as the first part of the proceedings, Mr. G. T. Beilby, Professor G. G. Henderson, and Mr. Thos. Gray being continued respectively as chairman, vice-chairman, and hon. secretary and treasurer. As new members of committee, the following were appointed:—Drs. A. P. Aitken and Wm. Frew, and Messrs. J. Christie and Wm. Foulis. The hon secretary read the annual report. Membership of the section stood at 289, an increase of 9 as compared with the list a year ago, notwithstanding a considerable number of deletions through removal, etc. Five meetings had been held, as compared with six for the foregoing period, and the average attendance had been 90, as compared with 16, while in the columns of the journal of the Society the space occupied by the papers and proceedings of the section had nearly doubled. This report having been received with obvious signs of gratification, the Chairman remarked on the success of the new departure, saying that the policy was to be continued by the section, and that a number of additional industries of the country had been marked out for special local attention, in due course of time, after the same manner followed in regard to shale distillation, brewing, gold extracting, etc.

Dr. C. M. Aikman then read a paper entitled "Progress of Agricultural Chemistry during the last Sixty Years." It was not now necessary to vindicate the title of agriculture to a place within the category of chemical industries. It fell well within the sphere occupied by the Society of Chemical Industry, and its alliance with the science of chemistry became the closer the more the methods of its inner workings were penetrated. Broadly speaking, agriculture divided itself into plant growth, stock breeding, and dairy produce manufacture. All three were closely allied with chemical operations, but for present purposes plant growth alone would be dealt with. Sixty years ago plant growth was a mystery little inquired into, and agricultural methods were largely those of mere unintelligent tradition. Humphrey Davy was about the first to make real scientific beginning, followed by Liebig, Lawes, Gilbert, and Boussingault. In the year 1840 the British Association met in Glasgow, one of the features being the mineral theory of plant growing, with some shaping in the direction of an *intelligent* employment of fertilisers. Bones, perhaps, formed the most ancient of what might be called artificial manures. Guano came next, and had in its day a truly enormous vogue, though now practically exhausted in its original deposits in South American waters. Nitrate of soda, also of South American source, came after guano, having been first imported in 1830. Sulphate of ammonia followed nitrate, originally as a by-product of coal gas manufacture, and afterwards from shale distillation and iron manufacture, but only in infinitesimal proportions as compared to the great mass which escaped recovery in the ordinary consumption of coal, etc., as fuel. Phosphates followed in the list, and there were the minor fertilisers, such as shoddy, hoofs, horns, hair, bristles, etc. Intelligent practices had been increasing in regard to the methodical use of these manures, but there was still much to learn,

particularly with regard to the influences of bacteria in the soil. The germ life of the soil, the millions of organisms there, and the rules which govern their action in the way of plant growth, formed a field of chemical research which had as yet been but little worked in, though a beginning had been made. To regularly equipped stations for protracted agricultural experiment they had largely to look for results in the future, and in concluding his paper Dr. Aikman hoped that the subject, of which but the fringes were now touched, would soon be resumed by some member of the Society, when very likely more light would be available, particularly with regard to bacterial action and culture. A discussion followed, and afterwards Mr. James Hendrick read some notes on "control analysis" in the fertiliser industry.

THE SALT UNION LIMITED.

REPORT OF THE SHAREHOLDERS' COMMITTEE.

THE following is the report of the committee of shareholders appointed at the last annual general meeting of the company. (*C.T.J.* 562, p. 159):—

"To the shareholders of the Salt Union, Limited.—Ladies and Gentlemen,—It will be within your recollection that at the annual general meeting of the company, held at Winchester House, London, on February 28th, 1898, resolutions were passed approving the removal of the head office of the company from London to Liverpool, and appointing the undersigned, who hold more than 10,000 shares in the company, a committee to approach the directors in a friendly spirit, and to take such steps as they might think advisable with a view of improving the management and prospects of the company's business, and the committee were instructed to use their best endeavours to strengthen the board of directors. Upon their appointment the committee at once placed themselves in friendly communication with the board of directors. In view of the removal of the company's head office to Liverpool, several of the present directors came to the conclusion that it would not be convenient for them to retain their seats on the board, though for the good of the company they have consented to do so pending the appointment of new directors in their place. The committee are of opinion that it is of great importance in the interests of the company that the new board should chiefly consist of gentlemen of commercial experience, prepared to give the necessary time and attention to the company's affairs, and they consider they are fortunate in having induced the following well-known local gentlemen to consent to act as directors, if elected:—Mr. William Harvey Alexander (Messrs. John Rew and Co.), merchant, Liverpool; Mr. George Henry Cox, Liverpool (vice president of the Liverpool Chamber of Commerce); Mr. John Holt, merchant, Liverpool (chairman of John Holt and Co., Liverpool, Limited, and chairman of the Wirral Waterworks Company, and of the West Cheshire Water Company); Mr. Archibald Roxburgh (Messrs. Cockburn, Allardice and Co.), merchant, Liverpool; Mr. Thomas Bland Royden, J.P., shipowner (director of the Union Marine Insurance Company, late M.P. for Liverpool). The Committee are pleased to state that Mr. Hermon John Falk and Mr. Thomas Ward, who have been associated with the Company from its commencement, will retain their seats on the board. The Committee firmly believe that, while

THE NEW BOARD

will have to contend with many and serious difficulties, their commercial standing and experience will enable them within a reasonable period to bring about an improvement in the position and prospects of the Company. They therefore cordially recommend these gentlemen for election by the shareholders. The Committee are authorised by the present directors to state that these gentlemen are unanimously approved by them. An extraordinary general meeting of the Company will be held at Winchester House, Old Broad-street, London, E.C., on Thursday, April 28, 1898, at three o'clock in the afternoon, when the gentlemen above named will be proposed for election as directors. We enclose a form of proxy, which we shall be glad if you will kindly sign and return at your early convenience. In conclusion, the Committee desire to express their thanks to the present directors for the friendly spirit in which they have met them throughout the negotiations.—We are, ladies and gentlemen, yours truly, Wm. S. McDowell (Chairman of the Committee), J. W. Brett, Edward Edmondson, James Head, J. B. Hunter, T. B Royden, Frederick Walker (Secretary of the Committee), Committee of Shareholders of the Salt Union, Limited."

Obituary.—It is with sincere regret that we chronicle the death of Mr. J. Methven, engineer at the Beckton works of the Gaslight and Coke Co. The name has been connected with gas engineering for generations, while Mr. J. Methven's work on photometric standards will cause him to be remembered and respected in gas circles for years to come. He had only reached 54 years.

FOREIGN REMITTANCES.

Owing to the inconvenience created by the various ways in which foreign subscriptions are remitted, we respectfully beg to inform subscribers that a *Crossed* MONEY ORDER is the most satisfactory method of remitting, both for them and ourselves. In the case of a Money Order, a letter advising us of same should always be sent, otherwise, owing to post-office formalities, much delay in tracing and acknowledging foreign remittances is inevitably entailed in this country.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are in a very weak state, and do not give much promise of mending; price for 90's is 1s. to 1s. 1d., and 50/90's 1s. 1d. to 1s. 2d. Carbolic crystals are firm at 7d.; crude still the same at 2s. 1d. It is quite within the range of practical politics that there may be a change for the better in carbolics in the near future. Naphthas are about the same, solvent being unchanged at 1s. 5d, while crude is inclined to weakness, 6½d. to 7d. being nearest values. Creosote is in good request, and grease oils are fairly well sought after at last quotations. Anthracene is being steadily held by the Tar Products Committee. Pitch rather better at 19s. 6d. to 20s., f.o.b. East Coast.

The holidays do not seem to have affected the sulphate market, as there has been a fair business doing. Prices vary greatly according to source of origin, but sellers' quotations are:—Beckton, £8. 11s. 3d. to £8. 12s. 6d; London outside makes, £8. 15s.; Liverpool, £8. 16s. 3d. to £8. 17s. 6d.; Hull, £8. 15s.; and Leith, £8. 16s. 3d., all prompt.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the markets on the whole are quiet, and there is no improvement in values to record. Caustic soda on the spot remains as last week, viz., f.o b. Liverpool, 77%, £8. 5s.; 74%, £8; 70%, £7. 5s.; 60%, £6. 5s. nett, per ton. Ammonia alkali unchanged at £4., bags, f.o.r. makers' works. Bleaching powder quiet at the moment, and prices are £5. 2s. 6d. to £5. 5s. per ton, softwoods, f.o.r., and £6., hardwoods. Chlorates still depressed. Sulphate of copper is a little irregular at £16. 5s. to £16. 7s. 6d., f.o.b. Saltcake is in better demand at 20s., in bulk, f.o.r. makers' works. Recovered sulphur £4. 10s. per ton, f.o.r. works. Nitrate of soda 7s. 6d. per cwt. Brown acetate of lime is firm at £5. 12s. 6d. to £5. 15s., c i.f; grey £7. 10s. to £7. 15s per ton. Acetate of lead steady at £24. 10s., c.i.f., for best foreign white. In acetic acid there is no change in value, but a moderately fair inquiry. White powdered arsenic irregular, at £19. 5s. to £19. 10s. f.o.r. Garston. Potash, caustic and carbonate, is in fairly good request, and prices are steady. Prussiate of potash firm for spot delivery at 6½d. per lb., but rather easier forward. Cyanide 1s. 1d. per lb. In aniline oil and salt there are no changes in price, and demand is only quiet. Reports of trade from all quarters indicate a prevailing quietness of demand and general low range of values for miscellaneous chemicals.

REPORT ON MANURE MATERIAL.

Manufacturers continue to be very fully occupied with deliveries, and the early promise of a large season seems likely to be realised. Whilst home consumption is satisfactory, demand for superphosphates for export has been altogether exceptional. The outlook for shippers of mineral phosphates is consequently much brighter than it has been for some years, especially as manufacturers have for several seasons been working themselves down to a more hand to mouth basis in purchasing material. The increase in the sources of supply may prevent any considerable further advance in prices, but there is in the situation every reason to think that the present level can at last be maintained. Both Continent and the Baltic have recently made large purchases of high grade Florida rock at full prices, and both are still buyers. Quotations for the United Kingdom for this description of rock, as also those for South Carolina and Algerian, remain as last reported. There is nothing fresh in River Plate bones, shippers' ideas of value for summer-autumn shipment being above those of buyers. East Indian bone meal is in request at £4. 5s. to £4. 7s. 6d. per ton, according to quality. Deliveries of nitrate of soda, both in the United Kingdom and on the Continent, continue to be heavy, and already they show a large increase upon those over the same period in 1897. Anxiety of holders to realise, however, in face of lower prices for forward shipment, prevents any improvement in spot value, which is 7s. 4½d. per cwt. for fine quality. There is considerable inquiry for dried blood, but supplies for prompt and early delivery are exhausted. Quotations are therefore nominal.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 46s. 0½d.; Middlesbro', 39s. 11½d. cash; and hematite, 49s. 6d. Copper firm: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 17s. 6d. to £51. 2s. 6d. cash, and £51. 5s. to £51. 10s. three months. Tin firmer. Straits closed at £65. to £65. 10s. cash, and £65. 13s. 9d. to £66. 3s. 9d. three months; Australian, £65. 5s.; English ingots, £67. 15s. Lead steady: Spanish, £12. 13s. 9d. to £12. 15s.; English, £12. 17s. 6d.; Silesian spelter, ordinary, £18. 11s. 3d. to £18. 12s. 6d. Nickel, 1s. 2½d. Antimony, £32. Quicksilver: First hands, £7. 1s. 3d.; second hands, £7. 0s. 6d. *Copper shares* quiet: Cape, $4\frac{11}{16}$ to $4\frac{13}{16}$; Copiapo, 2¼ to 2⅜; Libiola, 2⅝ to $2\frac{7}{8}$; Mason and Barry, $3\frac{7}{8}$ to 4⅛; Rio Tinto, $28\frac{1}{16}$ to $28\frac{3}{16}$; Tharsis, $7\frac{1}{8}$ to 7⅜.

GLASGOW, Wednesday.—Market easier, and a good business. Scotch done at 45s. 11½d., 46s., and 45s. 11d. cash; also at 46s. 2½d. and 46s. 1½d. month; buyers, 45s. 10½d. cash; sellers, 45s. 11d. Cleveland, buyers, 39s. 10d. cash; sellers, ½d. more. Cumberland hematite done at 49s. 7½d. and 49s. 8d. month; buyers, 49s. 4½d. cash; sellers, 1d. dearer. Middlesbrough hematite, sellers, 52s. 3d. cash.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is steady but quiet. Sales have been made at £20. to £20. 5s. for Lagos. Olive is not in great request, but prices are so far well maintained. Linseed steady at 17s. to 17s 6d. per cwt. for Liverpool makes, in export casks. There is a firm market in cottonseed for Liverpool refined at 15s. 3d. to 15s. 9d. Fish oils are moving well. Japan is not offered below 13s., while sales of Alaska have been made. Price not reported. Castor oil is in better demand, and closed firm at 3¼d. to $3\frac{5}{16}$d. for good seconds Calcutta, and 3¼d. per lb. for first pressure French. Tallow is steady, South American beef having been done at 22s. 6d. on spot. Resin shows more activity at recent currencies. Turpentine is rather flat at 25s. per cwt., with a weaker tendency. Petroleum dull at 5¼d. to 6½d. for American, and 4⅝d. per gallon for Russian refined.

CAKES.—American Western linseed on the spot continues in fair demand at £6. 2s. 6d. to £6. 7s. 6d., whilst Liverpool makes still offer at £8 to £8. 10s. per ton. American decorticated cottonseed remains steady and without alteration in value at £5. 5s. 6d. to £5. 17s. 6d., according to quality, with a moderate trade. Liverpool makes both of decorticated and undecorticated are held for £6. 5s. to £6. 10s. for the former, and £3. 18s 9d. to £4. 12s. 6d. per ton for the latter, according to brand. Egyptians on the spot are offered at £3. 16s. 3d. per ton, and have a steady market thereat.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9.s.; seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—Business here has hardly recovered from holiday diversions, which were from Thursday to Tuesday, and in some odd instances to Wednesday. The market rules quiet for oils, but considerable excitement exists amongst shippers of steam coal, which in some instances has jumped up in price by 50%, owing to the Welsh coal strike. The imports to date have been, as against the same time a year ago:—Linseed, 98,629 qrs., against 165,594 qrs.; rapeseed, 23,298 qrs., against 37,368 qrs.; cottonseed, 85,241 tons, against 69,192 tons; oilcake, 6,098 tons, against 3,146 tons; cloverseed, 34,892 cwts., against 22,394 cwts.; olive oil, 1,327 tuns, against 1,218 tuns; tar, 655 barrels, against 130 barrels. Linseed oil is steady in price, and quoted 14s. 9d. per cwt., spot; 14s. 10½d. month; 15s. 1½d. May-August; boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil is steady, and quoted 13s. 1½d. to 13s. 3d. spot, and 13s. 6d. May/August, whilst filtered oil is about £1. extra, and crude quoted 12s.; barrels £1. 10s., and ordinary casks, £1. per ton extra. Castor oil unchanged from 3¼d. to 3½d. per lb., extracted here. Olive oils, the position remains unchanged. Olive oil soaps from £17. per ton. Rosins unchanged. Turpentine, 24s. 6d. to 24s. 9d. per cwt. Cod oil, £15. 10s. to £18. per ton. Oleines firm and unchanged. Brown grease, £7. to £9. per ton.

CAKES.—Demand continues good. Linseed cakes steady, 95% pure, £8. to £8. 5s. per ton; Russians, £7. 5s. to £7. 10s. per ton. Oilcakes (linseed), £6. 15s. to £6. 17s. 6d. Cotton cakes firm. Best makes, £4. to £4. 1s. 3d.; seconds, £3. 16s. 3d. to £3. 17s. 6d. Decorticated cakes, £5. 17s. 6d. to £6. per ton; pure meal, £5. 15s. Rape cakes, Black Sea, £4. 5s. per ton. Round feed and oilcakes, £5. 12s. 6d. to £5. 15s. per ton.

PAINTS.—The trade here is somewhat affected by a strike amongst the painters, but fortunately Hull is in no serious way affected or dependent upon local requirements. Prices unchanged.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Wednesday.

The market has had an extra quietness because of the holiday interruption, and from this it has not yet recovered entirely. The normal condition, however, is that of want of animation, so that the difference made by the temporary suspension is all the smaller. The only section showing signs of accretion in bulk of business is that of the heavy chemicals for shipment, as had been expected at this particular part of the year. Prices of these, however, are hardly at all affected in any way. Sulphate of ammonia is very idle so far as new business is concerned, present movemeut being confined mostly to the working out of past made contracts. Prompt price f.o.b. Leith, for quantities, may be stated at £8. 17s. 6d., but rather more may be had for small special lots. Mineral oils, solid paraffins, and naphtha are all unchanged in price, and coming in for a minimum of movement. The coal-mining trouble, which has spread here, if protracted may affect injuriously mineral oil and chemical works.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8. 2s. 6d., 70/72° £7. 7s. 6d., 60/62° £6. 7s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 18s. to 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £8. 17s. 6d. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 2s. 6d. to £16. 5s., less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 8,285 bags cane unrefined.

TYNE CHEMICAL REPORT.

Tuesday.

Very little doing in the chemical market, the holidays no doubt interfering somewhat with business. Prices are practically unaltered. Soda crystals, £2. 12s. 6d. per ton gross weight, locally. Caustic, 76/77% £8. 5s. and £8. 10s. per ton; 70%, £7. 10s. per ton. Sulphur scarce, at £5 per ton.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 6d. per ton, f.o.b. Tees.

COALS.—Market is still excited, and those collieries in a position to supply best steam and bunker coals are getting high prices. Other qualities of coal are very little affected as yet. Prices to-day are about as under:—Best Northumbrian steam, 15s. 6d. to 16s. per ton; second qualities, 14s. to 15s. per ton; bunker coals, 10s. 6d. to 11s. per ton; gas coals, 8s. to 8s. 6d. per ton; small steam, 4s. to 5s. per ton; household coals, 10s. to 11s. per ton; coke firmer, 16s. to 20s. per ton.

New Companies.

Acetylene Beacon Light Co., Ltd.—Capital £20,000., in £1. shares. This company has been formed to adopt an agreement with F. Temple, and to manufacture, construct, vend, hire, and exploit acetylene gas generators, calcium carbide, and other metallic carbides, etc. The subscribers to the memorandum of association are:—O. W. Bowen, Ladbrook Park, Tamworth, gentleman; E. H. Jacques, Water-Orton, Warwickshire, gentleman; D. J. Shedden, 2, Priory-street, Dudley, chartered accountant; J. W. Madeley, Holloway Head, Birmingham, brass founder; F. Temple Knowle, Warwickshire, gentleman; G. J. Hardy, 59, Colmore Row, Birmingham, clerk; J. H. Rider, Waverley-road, Birmingham, clerk. Registered office, 61, Colmore Row, Birmingham.

Century Tanning Co., Ltd.—Capital £50,000., in £1. shares. This company has been formed to adopt an agreement with F. Meredith-Jones, A. Seymour-Jones, G. A. Mooney, E. Hughes, and H. R. Procter, and to carry on the business of tanners, leather manufacturers, hide and skin merchants, tallow refiners, belting, hose piping, boot and shoe manufacturers, etc. The subscribers to the memorandum of association are:—F. Meredith-Jones, St. John's, Wrexham, leather manufacturer; A. Seymour-Jones, Pendower, Wrexham, leather manufacturer; A. N. Palmer, Ingle Nook, Wrexham, chemist; E. Hughes, Glyndwr, Wrexham, accountant; J. G. Crompton, Percy-road, Wrexham, leather manufacturer; W. J. Hughes, 14, Vron Terrace, Rhosdda, Wrexham, bookkeeper; J. E. Hughes, Birch Villa, Wrexham, chemist. Registered office, Century Works, Rivulet-road, Wrexham.

Essential Oil Importers and Exporters, Ltd.—Capital £10,000. in £1. shares (2,000 10 per cent cum. preference). This company has been formed to acquire and carry on the business of an essential oil importer and exporter, and dealer in essences, colours, chemicals, and machinery carried on by M. Perls as Martin Perls and Co, at 62, 63 and 66, Basinghall-street, E.C., and to adopt a certain agreement. The subscribers to the memorandum of association are:—A. C. Miles, 30, Princess-street, Manchester, manager; S. M. Simmons, 49, Finsbury Pavement, E.C., solicitor; G. R. Julian, 62 and 63, Basinghall-street, E.C., architect; R. M. Roe, 62 and 63, Basinghall-street, E.C., architect; E. W. Britten, 2A, Trump-street, E.C., insurance broker; J. Priestley, 97, Cheapside, E.C., chartered accountant; A. J. Bate, 5, Dumont-road, N., clerk. Registered office, 62 and 63, Basinghall-street, E.C.

San Juan Syndicate, Ltd.—Capital £10,000. in £1. shares. This company has been formed to acquire from Symons and Moses an option to purchase certain mining properties and premises near Huasco, in the Republic of Chili, and to carry on the business of miners, smelters, metallurgists, etc. The subscribers to the memorandum of association are:—A. Fuller, 59, Endwell-road, Brockley, clerk; W. F. Check, Atherstone, Loughton, Essex, gentleman; H. Bond, Upper Mall Lodge, Hammersmith, accountant; H. L. Claridge, Warnford Court, E.C., secretary; J. A. White, 32, Reverdy-road, S.E., clerk; C. Schmidt, 49, Erpingham-road, Putney, clerk; H. L. Wardell, Avenue Lodge, Hampton, accountant.

Takamine Syndicate, Ltd.—Capital £5,000. in £1. shares. This company has been formed to acquire J. Takamine's rights in connection with the production of alcoholic ferments, and to carry on the business of distillers, rectifiers, chemists, brewers, etc.

W. Summerscales and Sons, 1898, Ltd.—Capital £80,000. in £1. shares (40,006 5½ per cent. cum. preference). This company has been formed to adopt an agreement with F. Fleming, and to carry on the business of manufacturers of and dealers in laundry and other machinery. The subscribers to the memorandum of association are:—J. Summerscales, 16, Devonshire-street, Keighley, engineer; H. C. Longsden, Thorncroft, Keighley, engineer; S. Rowe, 8, Bucklesbury, E.C., solicitor; F. Fleming, Halifax, manufacturer; J. Duff, Halifax, chartered accountant; W. H. Foster, Halifax, brass founder; R. Maude, 20, Hyde Park-road, Halifax, gentleman.

Ballycastle (Co. Antrim) Colliery Co., Ltd.—Capital £20,000. in £1. shares. This company has been formed to carry on the business of colliery proprietors, coal merchants, and coke manufacturers, workers of ironstone, bauxite clay, fire-clay, and other minerals. The subscribers to the memorandum of association are:—A. W. Spence, 50, Rosendale-road, West Dulwich, S.E., clerk; E. T. Smith, 65, Raymouth-road, S.E., shorthand writer; H. J. Thurston, 46, Purser Cross-road, Fulham, clerk; G. C. Ash, 7, Sloane-terrace, London, S.W., clerk; H. A. Manning, 231, Hampstead-road, N.W., shorthand writer; G. Ovenden, Chapel-road, Bexley Heath Kent, shorthand writer. Registered office, Quay-road, Ballycastle.

Gazette Notices.

BANKRUPTCY ACTS, 1883 and 1890.

Adjudication.

Jackson, Edward (late carrying on business without a partner under the style of Isaac Jackson and Sons, in the Receiving Order described as Edward Jackson) Huyton, near Liverpool, late Liverpool, paint manufacturer.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 2nd.

Acetanilide—
Holland, £80 — A. & M. Zimmermann

Acetate of Lime—
Germany, 5 pks. — A. Zumbeck & Co.

Acetic Acid—
Holland, 21 pks. — R. W. Greeff & Co.
" 40 — Phillipps & Graves

Acetone—
Holland, £240 — Petri Brs.
France, 75 — E. J. Catlin

Alkali—
France, 60 c. — J. Barber & Co
Belgium, 200 — C. Lamb & Co.

Ammonia—
Holland, £16 — Little & Johnston
" 227 — H. Lorenz

Antimony Ore—
Bastia, 48 t. — J. Bamber

Arsenic—
Portugal, £119 — Coverley & Westray

Asbestos—
U.States, £520 — W. Byford
" 1,000 — Deering & Robottom
Germany, 8 — Craven & Co

Asphaltum—
U. States, 7 pks. — Lunham & Moore

Barium Chloride—
Holland, £30 — Petri Brs.
Germany, 60 — "

Barytes—
Holland, 10 pks. — J. Owen
" 111 — W. Harrison & Co.

Bleaching Powder—
Germany, £185 — J. M. Steel & Co.
Holland, 170 — "

Bone Meal—
France, 350 t. — A. Hunter & Co.
" 200 — Fox, Roy & Co.
" 6 — L. & I. D. Jt. Co.
E. Indies, 150 — H. Lambert

Boracic Acid—
Spain, 2 pks. — A. Owen

Camphor—
Japan, 34 pks. — City Coml. Wf., Ld.
" 9 — L. & I. D. Jt. Co.

Caoutchouc—
Zanzibar, 9 c. — L. & I. D. Jt. Co.
Straits, 1,003 — E. Boustead & Co.
France, 23 — H. Johnson & Sons
Rangoon, 8 — Lewis & Peat
Zanzibar, 2 — Clarke & Smith
P.E.Africa, 27 — Hale & Son
Cape, 19 — Brookes & Green
Holland, 5 — W. M. Smith & Sons
Argentine, 40 — Prop. Bull Wf.
Germany, 12 — F. Huth & Co.

Castor Oil—
France, 12 brls. — J. Greig
" 25 pks. — F. Boehm
" 40 brls. — C. & E. Morton
Italy, 10 cs. — Stebbing & Co.
" 20 — City Coml. Wf., Ld.
Belgium, 33 brls. — R. G. Hall & Co.
Italy, 25 cs. — Barron, Harveys & Co.

Caustic Potash—
Germany, 75 pks. — J. M. Steel & Co.
France, £20 — W. A. Sparrow & Co.
" 20 pks. — Petri Brs.

Chemicals (*otherwise undescribed*)
Germany £65 — L. & I. D. Jt. Co.
" 200 — A. & M. Zimmermann
Belgium, 19 — John Cockerill Line
Germany, 121 — Butler's Wf., Ld.
Belgium, 96 — T. Palmer
" 20 — Leach & Co.
" 90 — T. H. Lee
France, 29 — Mory & Co.
Germany, 108 — Phillipps & Graves
U. States, 1,020 — H. Harkness
Holland, 10 — M. Benscher

Copper Sulphate—
U. States, 184 brls. — Brandies, Goldschmidt & Co.

Cream of Tartar—
France, 2 pks. — H. Johnson & Sons
" 25 — B. & F. Wf. Co.
Holland, 30 — Kirkpatrick, Barr, & Co.
Spain, 15 — B. & F. Wf. Co.
France, 6 C. — Christophersen & Co.
Italy, 83 — B. Jacob & Sons
France, 5 — M. Ashby, Ld.

Creosote—
Belgium, £35 — E. J. Catlin

Dyestuffs—

Anthracene
Holland, 137 pks. — Burt, Boulton & Co.

Argols
Italy, 231 pks. — Thames S. T. & L. Co.
" 394 — B. Jacob & Sons

Cochineal
Canaries, 25 pks. — Swanston & Co.
" 5 — Sperling & Williams
" 4 — Hendrey & Martin

Cutch
U. States, 225 pks. — Hicks & Ashmore
Rangoon, 100 — "
" 756 — A. Howden & Co.
" 600 — Arracan Co., Ld.

Divi Divi
E. Indies, 210 pks. — Beresford & Co.
Madras, 42 — Walker, Munsie & Co.

Extracts
Italy, 300 pks. — Union L. Co., Ld.
France, 12 — T. H. Lee
" 40 — Bailey & Leetham, Ld.
Austria, 121 — Rink Bros.
Holland, 21 — J. Norrenberg & Co.

Gambier
Straits, 492 pks. — J. Greig
" 704 — R. & J. Henderson
" 434 — G. R. Haller, Ld.
" 244 — Adamson, Gilfillan & Co.
" 251 — P. Heydemann

Indigo
E. Indies, 46 chts. — J. Owen
" 260 — A. B. Curtis & Co.
Bengal, 120 — Lewis & Peat
" 86 — L. & I. D. Jt. Co.
E. Indies, 119 — P. & O. Co.
" 10 — W. Roberts & Co.
" 3 — L. & I. D. Jt. Co.
Madras, 10 — "
Bengal, 6 — J. Hatton Hall & Co.
" 44 — Union L. Co., Ld.
Madras, 28 — Walker, Munsie & Co.
Bengal, 23 — A. B. Curtis & Co.
" 19 — H. J. Perlbach & Co.
" 28 — J. Owen
" 67 — W. J. & H. Thompson
" 1 — Montgomerie & Workman

Madras, 7 H. W. Jewesbury & Co.
U. States, 134 cs Baring Brs. & Co Ld.
E. Indies, 31 J. W. Cook & Co., Ld.
Bombay, 50 Wallace Brs.
Calcutta, 50 L. & I. D. Jt Co.
" 11 Schenker & Co.
Madras, 5 H Johnson & Sons

Myrabolams
E. Indies, 2,100 pks. Baxter & Hoare
" 2,135 Marshall & French
" 1,800 P. & O Co.
Italy, 800 Bere-ford & Co.
E Indies, 1,213 E. J Winser & Co.
" 800 G & H. Green
" 1,500 L. & I. D Jt. Co.

Saffron
Spain 1 pk. Nich's Wys, Ld.

Shumac
Italy, 1,500 pks. J. Kitchin, Ld.
" 400 J. E Scott

Tanners' Bark
Cape, 53 t. Boutcher, Mortimore & Co.
" 96 J. T. Rennie, Son, & Co.

Turmeric
E. Indies, 3 5 pks L. & I. D. Jt Co.

Valonia
A. Turkey 16 t. A. & W. Nesbitt
" 51 Adam Brs.
" 10 M. D. Co.

Dyestuffs (*otherwise undes.*)—
France, 11 pks. T. Hamilton & Co.

Farina—
Holland, 250 pks. R. Bennett & Co.

Glucose—
U. States, 400 pks. 1,800 c. Deering & Robottom
" 550 1,500 E. & T. Pink
" 1,050 17,401 R. G. Hall & Co.
" 1,000 5,500 Hall & Co.
" 114 632 Ohlenschlager Brs.
Canada, 2,000 2,000 Thompson & Co.
U. States, 150 900 Soundy & Sons
" 500 500 L. & I. D. Jt. Co
" 250 250 Pearce, Pelly & Co.
" 230 1,304 T. M. Duche & Son
Canada, 2,500 2,500 R. G Hall & Co.
" 250 250 L. Norman & Co., Ld.
" 500 500 L. & I D. Jt. Co.
France, 100 100 W. E. Cole
Germany, 50 425 R. G Hall & Co.
U. States, 904 5,751 L. & T. Ltge. Co.
" 5 0 1 430 L. Norman & Co., Ld.

Glue—
Germany, £23 Butler's Wf., Ld.
Holland, 75 A G. Robinson & Co.
Germany, 13 Phillipps & Graves
France, 51 Flageollet & Co.
Belgium, 3 4 J. Barber & Co.
Norway, 10 M. D. Co.
France, 102 C A & H. Nichols
U. States, 90 J Spicer & Sons
Austria, 250 Steinhoff, Sons & Co.
France, 290 Burnett, Brs. & Sons
" 71 J. Harrison

Guano—
Aden, 15 t. Culverwell, Brooks, & Co.

Kainit—
Germany, 790 t. F. W. Berk & Co., Ltd.

Lamp Black—
U. States 227 pks. L. & I. D. Jt. Co.

Lanoline—
Germany, £640 Butler's Wf., Ltd.

Lead Acetate—
Germany, £110 Petri Brs.

Litharge—
Germany, 8 pks. J. Barber & Co.

Manure—
Belgium, 3 t. T. Ronaldson & Co.
" 20 J. Gibbs & Co, Ld.
France, 49 Burnett Brs. & Sons
Belgium, 10 Chemical Works

Methyl Alcohol—
Germany, 3 dms. W. Iszard
France, 20 cks. E. J. Catlin

Mica—
E. Indies, £50 W. M. Smith & Sons
U. States, 205 "

Molasses—
U. States, 100 brls. 574 c. J. Barber & Co.
" 50 296 C. E. Morton
" 100 213 E. & T. Pink
" 100 620 Seaward Brs., Ltd
" 150 900 R. G Hall & Co.

Nitre—
Chili, 13,765 bgs. Anglo-Contl. Guano Works

Ochre—
France, 37 pks. W. Harrison & Co.
Holland, 13 Phillipps & Graves
France, 8 O'Hara & Hoar
" 20 Taylor Brs.

Oxalic Acid—
Norway, 45 pks. S C. D. Co.
Belgium, 19 R. W. Greeff & Co.

Paint—
Norway, 20 pks. W. Fenn

Phosphate of Lime—
Belgium, 50 t. C. A. & H. Nichols

Phosphate Rock—
Belgium, 10 t J. Harrison
" 195 D. de Pass & Co.
France, 150 West & Penrose

Pitch—
France, 100 brls. Poth, Hille, & Co.
Germany, 434 H. Hunt

Plumbago—
N. Z, 12 bxs. Gilleard & Holt
Ceylon, 104 brls. Lon. & Til. Ltge. C & D. Co.
Germany, 13 cks. H. Lambert
" 76 B. Gallaway
Ceylon, 98 brls. R. G. Hall & Co, Ld.
" 33 bxs.
" 51 brls. Union Ltge. Co.
" 43 Orient Co., Ld.
" 592 J. Thredder, Son, & Co.
Germany, 7 cks. W. J. Davies & Sons
Ceylon, 114 brls. French & Plucknett
" 354 J. Owen
" 387 Morgan Crucible Co.
U. States, 5 cks. Lunham & Moore

Potassium Bicarbonate—
Germany, £20 H. Lambert
Holland, 15 pks. A. & M. Zimmermann

Potassium Carbonate—
Holland, 38 c. Petri Brs.
France, 110 J. A. Reid
" 70 A. Zumbeck & Co.
" 100 Petri Brs.

Potassium Chloride—
Germany, 100 pks. F. W. Berk & Co, Ltd.

Potassium Nitrate—
Holland, 36 pks. S. E. Railway Co.

Potassium Oxymuriate—
Sweden, 120 pks. G. Boor & Co.

Potassium Prussiate—
Holland, £56 Blagden, Waugh, & Co.

Potassium Sulphate—
E. Indies, 400 pks. G. H. Wilson & Sons
Germany, 50 F. W. Berk & Co., Ltd.

Pumice Stone—
Messina, 9 t. L. & N.-W. Rly.
" 2 T. Wildast & Sons
" 1 T. Hubbuck & Son, Ltd.
" 5 Tyne S. S. Co.
Italy, 22 Beck & Pollitzer
" 13 Acton & Barman
" 2 E. Fellingham
" 6 O'Hara & Hoar
Puerto Cruz, 15 G. Knowles & Co.

Rosin—
Holland, 50 cs. T. H. Lee
U. States, 1,000 brls. T. Nickels & Co.

Salicylic Acid—
Germany, 6 pks. Butler's Wf., Ltd.

Saltpetre—
Germany, 18 t. P. Hecker & Co.
E. Indies, 4,553 bgs. Lucas & Spencer's Wf.
" 676 Blackwood, Bryson, & Co.
" 690 Perkins & Homer
Germany, 40 cks. J. Hall & Son

Soda—
Belgium, 200 c. Sawer, Sons, & Co.
Holland, £25 R. W. Greeff & Co.
Belgium, 23 Becker & Wagner

Sodium Phosphate—
Belgium, 11 cs. Sawer, Sons, & Co.

Sodium Prussiate—
Belgium, 28 pks. Blagden, Waugh, & Co.

Starch—
Holland, 560 pks. Little & Johnston
" 40 Phillipps & Graves
Belgium, 60 Leach & Co.
Germany, 60 Phillipps & Graves
Belgium, 208 F. Claydon & Co.
" 40 C. Tennant, Sons & Co.
" 45 Sawer, Sons, & Co.
" 110 Becker & Wagner
" 720 E. & T. Pink
U. States, 200 Beck & Pollitzer
Belgium, 200 T. H. Lee
Austria, 10 Beck & Pollitzer
U States, 200 R. G. Hall & Co.

Stearine—
U. States, 13 brls. L. & I D. Jt. Co.
Belgium, 127 bgs. H. Hill & Sons
France, 100 "
" 175 G. Boor & Co

Sulphur—
Italy, 51 G. Foor & Co.
" 300 Branham Brs. & Co.
" 50 Johnson & Hooper
" 15 F. Smith

Sulphuric Acid—
Holland, 10 pks. Perkins & Homer

Sulphurous Acid—
Holland, 10 pks. Perkins & Homer

Talc—
E. Indies, £112 L. & I. D. Jt. Co.
" 1,586 W. M. Smith & Sons
" 40 Carter, Paterson & Co.
Italy, 35 C. F. Gerhardt

Tar—
Germany, 50 brls. Blagden, Waugh, & Co.
Denmark, 200 Linck, Moeller, & Co.

Tartaric Acid—
Holland, 24 pks. F. C. Devon & Co.
" 14 B. & F. Wf. Co.

Ultramarine—
Belgium, 20 pks J. Harrison
" 9 W. Harrison & Co.

Varnish—
U. States, 15 pks. Williams, Torrey, & Co.
" 6 Dawson Brs.
" 2 Pinchin, Johnson, & Co.

Verdigris—
France, 2 pks B. & F. Wf. Co.
" 3 C. F. Gerhardt

White Lead—
Germany, 21 pks. H. Johnson & Sons
" 19 W. A. Rose & Co.
" 55 F. G. Clifford
" 18 Perkins & Homer
" 54 Burrell & Co
Belgium 47 T. & W. Farmiloe, Ld.
Holland, 36 N. J. Fenner & Co.

Wolfram Ore—
Australia, 2 t. French & Smith

Wood Pulp—
Sweden, 400 pks. W. E. Bott & Co
" 14 T. S. T. & Light Co, Ld.
" 400 W. G. Taylor & Co, Ld.
" 250 Tough & Henderson
Canada, 3,365 Furness, Withy & Co.
Sweden, 1,280 Henderson, Craig, & Co.
" 272 C. S. Lovell
Norway, 1,120 Christophersen, Andrews, & Co
Germany, 1,500 Tough & Henderson
Norway, 160 Becker & Co.
Belgium, 2,862 P. Heydemann
Norway, 1,600 J. Shard
" 360 Tough & Henderson
Holland, 77 Vokins & Co.
Sweden, 324 Alsing & Co., Ld.
U. States, 3,071 Henderson, Craig, & Co.

Zinc Oxide—
Holland, 141 pks M. Ashby, Ltd.
" 50 Prprs. Dowgate Dk.
U. States, 225 M. Ashby, Ltd.
Holland, 501 Soundy & Sons

LIVERPOOL.

Week ending March 31st.

Ammonia—
Punta Arenas, 20 cs. Duncan, Fox & Co.

Ammonium Sulphate—
Havre, 2 cks. Cunard S. S. Co., Ld.

Asbestos—
New York, 23 bgs.

Barytes—
Antwerp, 51 cks.

Boracic Acid—
Leghorn, 9 cks.

Boracite—
Panderma, 1,726 bgs.

Castor Oil—
Leghorn, 66 cs

Chemicals (*otherwise undescribed*)
Hamburg, 2 cks.

Citric Acid—
Messina, 4 cks

Colours—
Rotterdam, 2 cks.

Cottonseed Oil—
New York, 200 brls.

Cream of Tartar—
Bordeaux, 23 cks.

Dyestuffs—

Aniline Salts
Antwerp. 18 brls.

Annatto
Bordeaux, 4 cks.

Extracts
Antwerp, 27 bxs

Gambier
Singapore, 512 bls.

Shumac
Palermo, 950 bgs

Gelatine—
Rouen, 5 cs. Co-op. W'sale Society, Ld.

Glucose—
New York, 549 brls.
" 50 Rogers Holloway
" 2 T. M. Duche & Sons
" 395 J. Glen

Glue—
St. Nazaire 20 cs. 5 bls.
Rouen, 11 cks Co-op. W'sale Society, Ld.
Rotterdam, 101 bgs. 5 cs.
Genoa, 14 cks.

Lamp Black—
New York, 50 brls. B. R. Vickers & Sons

Lead Ashes—
Marseilles, 9 cks.

Manganese Ore—
Bordeaux, 600 t. R. J. Francis & Co

Methyl Alcohol—
Antwerp, 5 dms.

Mica—
New York, 1 ck.

Molasses—
Galveston, 100 brls.

Ochre—
Rouen, 75 cks. Co-op W'sale Society, Ld.

Paint—
Boston, 40 cs.
Havre, 2 cks. Cunard S. S. Co., Ld.
Rotterdam, 1 bx.

Paraffin Scale—
New York, 695 brls. Thompson & Bedford

Phosphate—
Ghent, 120 t.

Potash—
Dunkirk, 21 dms. Bancroft & Co., Ld.
" 21
Rouen, 96 cks. Co-op W'sale Society, Ld.
Salaverry, 6 sks. W. R. Grace & Co.

Pyrites—
Huelva, 5,545 t. Matheson & Co.

Saltpetre—
Hamburg, 4 cks.

Soap—
New York, 3 cs. 1,100 bxs 63 crts.
Rotterdam, 50
Marseilles, 8
Naples, 1

Soapstone—
Bordeaux, 20 bgs.
Genoa, 100

Starch—
Bremen, 120 cs.
Amsterdam, 48 bxs.
Antwerp, 142 cs. J. T Fletcher & Co.
" 273

Stearine—
Rotterdam, 6 bls.
Antwerp, 52 bgs.

Sulphur—
Catania, { 430 bgs. 54 brls. 27 cks. 10 cs.

Tallow—
New York, 95 hds. M. M. Schultz
" 1,090
Campana, 260 cks.
B. Ayres, 404 hf.-pps.

Tartaric Acid—
Rotterdam, 1 cs.
Messina. 10 cks.

Tin Ashes—
Marseilles, 5 cks.

Treacle—
New York, 430 bbls.

Ultramarine—
Rotterdam, 20 cks.

Varnish—
Genoa, 3 kgs. 1 cs. Sanitary Paint Co.

White Lead—
Rotterdam 91 cks.

Wood Pulp—
Gothenburg, 29 pks. G. Schenkenwald & Co.
Portland, Me., 449 bls.
Rotterdam, 28 pks.
New York, 51 bdls. Christie & Co.

Zinc Oxide—
New York, 110 brls.

Zinc White—
Rotterdam, 60 cks.

MANCHESTER.

Week ending April 2nd.

Acetate of Lime—
Rouen, 154 bgs.

Acetic Acid—
Rotterdam, 20 cks. 33 btls. Wilson, Sons, & Co., Ld.

Acids—
Ghent, 15 crbys.

Alkali—
Rotterdam, 5 cks. Wilson, Sons, & Co., Ld.

Ammonia—
Rotterdam, 25 cyldrs. Wilson, Sons, & Co., Ld.

Ammonium Acetate—
Rotterdam, 3 brls.

Aniline—
Rotterdam, 2 btls. Wilson, Sons, & Co., Ld.
Hamburg, 50 cks.

Antimony Oxalate—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Antimony Salts—
Rotterdam, 14 cks. Wilson, Sons, & Co., Ld.
Hamburg, 2

Barytes—
Antwerp, 50 bgs.

Caoutchouc—
Treport, 8 cs.

Caustic Potash—
Hamburg, 13 dms.

Chemicals (*otherwise undescribed*)
Rotterdam, 5 cks. Wilson, Sons, & Co., Ld
Hamburg, 20

Chrome Ore—
New York, 24 bxs.

Colours—
Rotterdam, { 19 cks. 14 cs. 100 pks. 12 bxs. 211 brls. Wilson, Sons, & Co., Ld.
Ghent, 7 pks.
Antwerp, qty.

Dextrine—
Hamburg, 2 cs.

Farina—
Rotterdam, 1,500 bgs. Wilson, Sons, & Co., Ld.
Stettin, 900 Browne, Geveke, & Co.
" 300

Felspar—
Christiania, 1 cs. W. H. Ingram

Glucose—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.
Stettin, 301 brls.

Glue—
Rouen, 65 cks.
Hamburg, 60 bgs.
Antwerp, 70 bls.
Treport, 3 cks. 40 bdls.

Indigo—
Rotterdam, 3 brls. Wilson, Sons, & Co., Ld.

Limestone—
Antwerp, 2 cs. J. T. Fletcher & Co.
" 4 4 crts.

Methaphenylindiamin Salt—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Ochre—
Treport, 20 cks.

Paraffin Scale—
New York, 1,083 brls.

Potash—
Rotterdam, 20 cks. Wilson, Sons, & Co., Ld.
Hamburg, 10 10 cs.

Pyrites—
Huelva, 1,486 t. W. H. Stott & Co.

Soap—
Hamburg, 1 cs.

Sodium Bicarbonate—
Stettin, 3 cks.

Sodium Phosphate—
Antwerp, 16 cks.

Starch—
Rotterdam, 319 cs. Wilson, Sons, & Co., Ld.
Antwerp, 189 pks.
New York, 200 bgs.

Tallow—
Hamburg, 50 tcs.

Tartaric Acid—
Rotterdam, 15 cks. Wilson, Sons, & Co., Ld.

Tin Chloride—
Antwerp, 16 cks.

Treacle—
Hamburg, 20 brls.

Waste Salt—
Hamburg, 1,000 bgs.

Wood Pulp—
Arendal, 2,000 bls. W. H. Stott & Co.
Christiania, 40 cs. W. H. Ingram
Gothenburg, 1,490 bls.
Bucksport, 51,467
Hamburg, 20 rolls
New York, 100 bdls.

Zinc Oxide—
Antwerp, 115 brls.

Zinc Sulphate—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Zinc White—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.

HULL.

Week ending April 2nd.

Acetic Acid—
Rotterdam, 9 blns. Hutchinson & Son

Acids—
Bari, 94 cks. Wilson, Sons, & Co., Ld.

Barytes—
Rotterdam, 82 cks. W. & C. L. Ringrose
" 20 bgs. Wilson, Sons, & Co., Ld.
Bremen, 98 cks. Bailey & Leetham, Ld.
Antwerp, 70
" 105 bgs.
" 100 Johnson Brs.

Camphor—
Hamburg, 4 brls. Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Riga, 50 cks. Wilson, Sons, & Co., Ld.
New York, 3 cs. "
Hamburg, 1 brl. "

Cod Oil—
Bergen, 161 cks. Wilson, Sons, & Co., Ld.
Drontheim, 60 brls. "
Christiania, 6 "

Colours—
Rotterdam, 3 cks. W. & C. L. Ringrose
8 bxs 11 pks.
" 1 2 cks. Hutchinson & Son
Riga, 198 pks. Wilson, Sons, & Co., Ld.
Antwerp, 2 cks. Wilson, Sons, & Co., Ld.
3 cs.
8 brls. Storry, Smithson, & Co.
"

Cottonseed Oil—
New York, 400 brls. Wilson, Sons, & Co., Ld.

Cream of Tartar—
Rotterdam, 2 cks. Hutchinson & Son

Dyestuffs—
Alizarine
Antwerp, 100 pks. Wilson, Sons, & Co., Ld.
1 cs.
Logwood
Hamburg, 50 bls. Wilson, Sons, & Co., Ld.
Shumac
Trieste, 25 bgs Wilson, Sons, & Co., Ld.
Palermo, 1,100
Valonia
Trieste, 836 bgs. Wilson, Sons, & Co., Ld.

Farina—
Stettin, 148 bgs. Wilson, Sons, & Co., Ld.

Glue—
Christiania, 160 bgs. Wilson, Sons, & Co., Ld.
Dunkirk, 29 cks. "
Trieste, 8 "

Lead Acetate—
Stettin, 49 cks. Wilson, Sons, & Co., Ld.

Limestone—
Antwerp, 1 crte. Wilson, Sons, & Co., Ld.

Naphthol—
Rotterdam, 2 cks. Hutchinson & Son

Nickel Salt—
Rotterdam, 1 ck. Hutchinson & Son

Phosphate—
Dunkirk, 2,880 bgs. Wilson, Sons, & Co., Ld.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.

Potash—
Dunkirk, 17 cks. Wilson, 80 pks. Sons, & Co., Ld

Pumice Stone—
Messina, 145 pks. Wilson, Sons, & Co., Ld.
" 39 brls.

Saltpetre—
Hamburg, 12 bgs. Wilson, Sons, & Co., Ld.

Soda—
Ghent, 117 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 100 Bailey & Leetham, Ld.
" 31 cs. Wilson, Sons, & Co., Ld.

Starch—
Bremen, 2,039 pks. Veltmann & Co.
Ghent, 140 cs. Wilson, Sons, & Co., Ld.

Sulphur—
Catania, 904 pks. Wilson, Sons, & Co., Ld.

Tallow—
New York, 60 brls. Wilson, Sons, & Co., Ld.
Hamburg, 33 tcs. "
Dunkirk, 24 cks. "

Tartar—
Bordeaux, 7 cks. Rawson & Robinson

Tartaric Acid—
Rotterdam, 12 cks. Hutchinson & Son
Antwerp, 2 Bailey & Leetham, Ld.

Treacle—
New York, 850 brls. Wilson, Sons, & Co., Ld.

Turpentine—
Bordeaux, 5 cks. Wilson, Sons, & Co., Ld.

Ultramarine—
Rotterdam, 1 ck. Hutchinson & Son

Uranium—
Stavanger, 1 bx. Wilson, Sons, & Co., Ld.

Varnish—
Antwerp, 5 cks. Wilson, Sons, & Co., Ld.

Waste Salt—
Hamburg, 888 bgs.

White Lead—
Rotterdam, 34 cks. W. & C. Ring
Ghent, 40 Wilson, Sons, & Co.,
Antwerp, 34 Bailey Leetham,
Amsterdam, 20 W. & C. L. Ring

Wood Pulp—
Drontheim, 7,400 bls. Wilson, Sons, & Co.
Gothenburg, 373 "
Christiania, 1,162 "
Hango, 134 J. Good &

Zinc Oxide—
Antwerp, 28 cks. Bailey Leetham

GLASGOW.

Week ending April 7th

Alkali—
Amsterdam, 3 cks. J.

Ammonium Nitrate—
Rotterdam, 52 cks. J.

Arachide Oil—
Rotterdam 2 cks. J.

Asbestos—
Genoa, 131 pks.

Barium Chloride—
Rotterdam, 12 cks. J.

Barium Sulphate—
Antwerp, 710 bgs. 80 cks

Barytes—
Rotterdam, 200 bgs. J

Bleaching Powder—
Rotterdam, 45 cks. J

Borate of Lime—
Hamburg, 2,400 bgs.

Chemicals (*otherwise unde*
Rotterdam, 2 cks.
3 cs.
Hamburg, 15

Colours—
Rotterdam, 4 cks.
281 pks.

Cottonseed Oil—
Rotterdam, 50 brls.

Dyestuffs—
Aniline
Rotterdam, 17 cks.
16 bxs. 40 brls.
Amsterdam. 4 cks.
Aniline Colours
Hamburg, 1 cs.
Extracts
Antwerp, 4 cks.
Indigo
Amsterdam, 3 cs. J.
Logwood
Montego Bay, 64 t.
Milk River, 321
Valonia
Smyrna, 230 t.

Dyestuffs (*otherwise*
Dunkirk, 10 cks.

Glucose—
Baltimore, 155 brls.
St. John, N.B., 200

Glue—
Genoa, 5 cks.
Hamburg, 4

Guano—
Dyrafjord, 2,215 bgs.

Methyl Alcohol—
Antwerp, 5 dms

al White—
a, 100 bgs.
—
burg, 5 brls.
—
burg, 8 cs.
h—
erdam, 76 cks. J. Rankine & Son
tirk, 2 dms.
burg, 23
sium Chlorate—
eilles, 18 cks.
etre—
burg, 28 cks.
—
erdam 14 cs. J. Rankine & Son
m Sulphate—
erdam, 1 ck. J. Rankine & Son
h—
erdam 15 cs. J. Rankine & Son
erp, 50 bgs.
ine—
York. 1 tce.
ric Acid—
burg, 2 cks.
ish—
York, 3 cs. 25 brls.
e Salt—
burg, 700 bgs.
e Lead—
erdam, 33 pks. J. Rankine & Son
d Pulp—
erdam, 120 pks. J. Rankine & Son
rto, 850 bls.

Gothenburg, 161 33 rolls
Christiania, 180 5 cs.
Christiansund, 500
Zinc Oxide—
Antwerp, 60 cks.
New York, 150 brls.
Zinc White—
Rotterdam, 25 pks. J. Rankine & Son

TYNE.

Week ending April 2nd.

Antimony Ore—
Antwerp, 1,565 bgs. Tyne S. S. Co.
Barytes—
Antwerp, 600 bgs. Tyne S. S. Co.
Rotterdam, 79 cks. "
Colours—
Antwerp, 2 cks. Tyne S. S. Co.
Hamburg, 3 "
Glue—
Rotterdam, 3 cs. Tyne S. S. Co.
Limestone—
Antwerp, 5 crts. Tyne S. S. Co.
Ochre—
Rouen, 48 cks. J. Brown & Co.
Pitch—
Rotterdam, 14 cks. Tyne S. S. Co.
Saltpetre—
Hamburg, 20 kgs. Tyne S. S. Co.
Soap—
Rotterdam, 15 cs. Tyne S. S. Co.
Soda—
Rouen, 7 cks. J. Brown & Co.
Stearine—
Antwerp, 6 bgs. Tyne S. S. Co.
Superphosphates—
Antwerp, 250 bgs. Tyne S. S. Co.
Waste Salt—
Hamburg, 50 bgs. Tyne S. S. Co.
Harburg, 204 t.
Zinc Oxide—
Antwerp, 25 brls. Tyne S. S. Co.

GOOLE.

Week ending March 30th.

Alizarine—
Rotterdam, 98 cks. 2 cs.
Aniline—
Ghent, 2 cs.
Antimony—
Boulogne, 3 cks.
Barytes—
Antwerp, 40 bgs.
Caoutchouc—
Boulogne, 5 cks.
Colours—
Hamburg, 20 cks.
Dyestuffs *(otherwise undescribed)*
Rotterdam, { 353 cks. 1 tin; 112 cs.
Boulogne, 1 79 pks.
Farina—
Delfszyhl, 410 bgs.
Hamburg, 100
Glue—
Dunkirk, { 10 bgs. 2 cks.
Madder—
Rotterdam, 17 cks.
Phosphate—
Dunkirk, 1,600 bgs.
Potash—
Dunkirk, 20 cks. 92 dms.
Hamburg, 10
Pyrites—
Finiedet, 1,100 t.
Saltpetre—
Hamburg, 20 bgs.
Rotterdam, 100
Starch—
Ghent, 96 bxs.
Tartar—
Rotterdam, 1 ck.
Waste Salt—
Hamburg, { 280 t. 754 cks.

GRIMSBY.

Week ending April 2nd.

Caoutchouc—
Antwerp, 5 cs.
Hamburg, 2 6 pks.
Chemicals *(otherwise undescribed)*
Antwerp, 4 cks.
Hamburg, 4 4 cs.
Rotterdam, 4
Colours—
Antwerp, 21 cks. 57 pks.
Hamburg, 56 107 cs.
Rotterdam, 2
Glue—
Hamburg, 5 cks.
Plumbago—
Antwerp, 13 bgs.
Saltpetre—
Rotterdam, 250 bgs.
Soap—
Malmo, 1 cs.
Waste Salt—
Hamburg, 597 bgs.
Wood Pulp—
Malmo, 10 bls.

EXPORTS OF CHEMICAL PRODUCTS

OF

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 6th.

s—
ang 31 cs. £24
Elizabeth, 42 pks. 37
e Town, 20 17
ionium Carbonate—
kirk, 1 t. £28
is, 1 10 c. 42
goon, 5 cs. 11
en, 5 135
ionium Chloride—
laide, 10 c. £20
ionium Sulphate—
nt, 100 t. £900
erara, 15 146
terdam, 70 630
adad, 300 9 c. 2,700
burg, 50 435
werp, 115 1,085
nen, 10 95
kirk, 100 900
nd, 324 1 2,991
bados, 50 450
ydrous Ammonia—
burg, 6 cyldrs. £13
ching Powder—
ondon, 5 cs. 10 dms. £8
bay, 3 t. 30
cic Acid—
utta, 10 c. £13
olic Acid—
ondon, 200 dms. £34
port News, 48 cks. 275
onic Acid Gas—
nel Is., 30 tubes £11
tic Potash—
verp, 5 t. 7 c. £214
ey, 7 9
tic Soda—
verp, 1 t. 1 c. £32
manton, 10 18 80
castle, 10 5
ey, 15 12
land, 2 2 18
laide, 4 10

Chemicals *(otherwise undescribed)*
Genoa, 25 kgs. £146
Hamburg, 3 cks. 40 pks. 405
Rotterdam, 10 56
Durban, 1 cs. 14
Demerara, 29 22
Wellington, 27 47
Madras, 16 30
Yokohama, 5 37
Lyttelton, 5 30
Melbourne, 2 49 57
Sydney, 41 54
Auckland, 153 69
Calcutta, 5 10 34
Brussels, 7 40
New York, 5 cks. 41
Dunkirk, 19 dms. 77
Citric Acid—
Durban, 3 c. £18
Bombay, 1 t. 120
Antwerp, 2 12
Libau, 10 63
B. Ayres, 1 115
Amsterdam, 1 cs. 10 cks. 90
Auckland, 4 15
E. London, 10 64
Coal Products—
Aniline
Sydney, 2 cs. £16
Aniline Oil
Philadelphia, 20 dms. £600
Creosote
New York, 50 cks. £353
Huelva, 4,038 brls. 4,982
Creosote Salts
Smyrna, 12 bgs. £9
Naphtha
Treport, 75 brls. £195
Naphthaline
Antwerp, 170 bgs. £115
Naphthaline Salts
Philadelphia, 270 bgs. £33
Pitch
Adelaide, 3 cks. £5
Antwerp, 350 t. 375
Hamburg, 7 21
Hong Kong, 1,470 cs. 370
Dunkirk, 521 670
Cette, 1,500
Prussian Blue
Cologne, 6 cks. £27
Tar
Pt. Elizabeth, 50 dms. £6
Colombo, 35 runlets 25

Durban, 550 19
Sydney, 250 49
Adelaide, 130 30
Coal Products *(otherwise undes.)—*
Antwerp, 20 brls. £15
Copper Sulphate—
Bordeaux, 41 t. 10 c. £693
Cream of Tartar—
Melbourne, 1 t. £78
Newcastle, 3 c. 11
Disinfectants—
Christchurch, 33 pks. £166
Cape Town, 230 95
Demerara, 6 cs. 26
Hamburg, 8 24
E. London, 12 15
Adelaide, 26 40 kgs. 26
Auckland, 22 70
Sydney, 32 120
Dried Blood—
Antwerp, 50 t. 8 c. £302
Dunkirk, 41 15 246
Manure—
Grenada, 3 t. £24
Havre, 25 80
Charente, 24 80
Martinique, 60 600
Demerara, 15 124
Madeira, 50 300
Rotterdam, 35 3 c. 281
Mauritius, 127 591
Nitric Acid—
Channel Is., 42 carboys £68
Hamburg, 5 cs. 10
Adelaide, 12 c. 21
Phosphorus—
E London, 3 cs. £27
Potassium Cyanide—
New York, 200 cs. £971
Pt. Elizabeth, 8 t. 798
Melbourne, 7 4 c. 150 2,423
Sydney, 15 200
Salicylic Acid—
E. London, 2 c. £16
Saltpetre—
Pt. Elizabeth, 11 c. £11
Colombo, 18 19
Sydney, 1 t. 20
Melbourne, 2 41
Vigo, 7 8 138
Wellington, 10 11

Sheep Dip—
Durban, 1,060 dms. 22 cs. £260
Adelaide, 100 20
Soda—
Durban, 1 t. £7
Colombo, 14 c. 5
M. Video, 6 18
Cape Town, 4 3 12
Soda Crystals—
Cape Town, 1 t. 12 c. £5
Newcastle, 3 2 13
Sodium Bicarbonate—
Pt. Elizabeth, 10 c. £7
Sodium Nitrate—
Alexandria, 5 £50
Sulphur—
Wellington, 1 t. £7
Sulphuric Acid—
Durban, 10 cs. £10
Tartaric Acid—
Melbourne, 1 t. £114
Durban, 3 c. 18
Pt. Elizabeth, 10 58

LIVERPOOL.

Period ending April 6th.

Acetic Acid—
Copenhagen, 1 t. 10 c. £30
Alum—
Panama, 2 c. 1 q. £5
Bombay, 2 t. 14 15
Havana, 10 15
Adelaide, 1 5
Galatz, 6 6 30
Alumina Sulphate—
Canada, 10 t. £40
Ammonium Carbonate—
Hamburg, 15 c. £21
Copenhagen, 1 t. 25
Rotterdam, 15 20
M. Video, 1 4 32
Hiogo, 2 4 66
Lisbon, 17 2 q. 25
Ammonium Chloride—
Copenhagen, 10 c. £16
Piræus, 10 1

Smyrna,		12	1 q.	21
Genoa,	5 cks.			42
Calcutta,	25 brls.			119

Ammonium Sulphate—

Boston,	50 t.	10 c.		£455
Castellon,	124	10		1,120
Norfolk, Va.,	25	5		227
Leghorn,	20	4		202
Demerara,	2,1	15	2 q.	2,698
Gd. Canary,	26			253
Valencia,	177			1,656
Las Palmas,	6	5		58
Barcelona,	20	13	2	192
Gandia,	75	14		1,215

Antimony Sulphide—

Madeira,		3		£4

Bleaching Powder—

Boston,	338 cks.			
East St. Louis,	21			
Ghent,	76			
Libau,		80 kgs.		
Naples,	18			
Newport News	212			
New York,	193			
Rio de Janeiro,		20 cs.	15 brls.	
Seville,	20			
Tampico,	10			

Boracic Acid—

Antwerp,	1 t	4 c	1 q.	£19
Portland, M.,	3	18		104

Borax—

Melbourne.	12 t.	11 c.		£210
Hobson's Bay,	2	5		50
Brisbane.	2	3	3 q.	33
Vera Cruz.		16	3	12
Portland. M.,	11	2	8	167
Portland,	2	13	2	38
Antwerp	15	11		226
Naples,			25 brls.	48
Genoa,	5	15	50	168
Copenhagen,	5	8		85
Sydney,	4	10		66

Calcium Chloride—

Odessa,	20 t.	3 c.		£40
Nagasaki,		12		2
Paris,	5	4	[illegible]	12
Sydney,	20	6		45

Carbolic Acid—

Melbourne,	2 t	10 c.		£87
Rouen,		4		6
Newport News,	15	18		565
B. Ayres,	1	10		17
Rotterdam,	15			3 0

Caustic Potash—

Sydney,		8 c.		£13
Brisbane,		12		16

Caustic Soda—

Adelaide,	35 dms.			
Babia,	60			
Barcelona,		90 pks		
Boston.	250			
Brantford, Ont.,	35			
Brisbane,			17 bxs.	
Callao,	100			
Demerara,	20			
Fiume,	30			
Galatz,	10			
Genoa,	420			
Hamburg,	32			
Konigsberg,	35			
Libau	36			
Lisbon,	3			
Melbourne,		45		
M. Video,	75			
Naples,	17			
N. Orleans	50			
New York,	50			
Pacasmayo,	10			
Padang,	50			
Pasages,		40		
Plasencia De Caceres,	50			
Rio de Janeiro,	35	3 cs.	50 brls.	
Rotterdam,	38			
Seville,	250			
Stettin,	1 8			
Sydney,		22 pks.	22 cls	
Torrigos,	30			
Vera Cruz,	100			

Chemicals *(otherwise undescribed)*

Rouen,	5 t.			£140
Adelaide,	1			30
Alexandretta,	1			33
Calcutta,				156
,,	16	9 c.	3 q.	46
St. John's,	5	15	2	29

China Clay—

Bombay,	40 cks.		
Boston.	540		
Lisbon,		10 t.	3 c.
Portland,	100		
Rio de Janeiro,		40 brls.	

Citric Acid—

Piræus,		2 c.	£11

Coal Products—

Aniline Colours

Shanghai,	[illegible]	100 cs.		

Aniline Dyes

Barcelona,	[illegible]	2 kgs.		

Aniline Oil

Barcelona,		6 brls.		

Aniline Salts

Copenhagen,		15 cks.		

Tar

Hamburg,	80 t.	10 c.		
Para,	10 brls.			
Philadelphia,	300			

Copper Sulphate—

Rouen,	3 t.	16 c.	3 q	£60
Trieste,	168	6	2	2,361
Brindisi,	59	10	3	934
Leghorn,	131	16	2	2 096
Venice,	15	12	2	785
M. Video,	5	10	1	84
Lisbon,	86	1	2	1,327
Oporto,	30	16	2	495
Rotterdam,	51	1	3	794
Cette,	387	18	2	6,166
Boston,	4	18		76
Nantes,	122	2	3	1.901
Galatz,	5			80
Naples,	126	14	2	2,122
Palermo,	7	18		124
Piræus.	2	1		31
Smyrna,	5	2		80
Genoa,	3 5	4		5,769
Bordeaux,	508	2	1	8,251
B. Ayres,		5		4
Tampico,	1			16
Carril.	3	2		47
Algoa Bay,		10		8
Samarang.	4			64
Paris,	10	1		170
Beyrout,		9		7
Pernambuco,		9	2	8
Rio de Janeiro,		4	3	4
Messina,	6	16	1	114
Fiume,	10	3	2	163
Stettin,	5	1	1	81
Callao,	1	6	3	21
Para,		4	3	4
Antwerp,	8	12		136
Sydney,	1			17

Copperas –

Syra,	4 t.	4 c.		£8

Cresylic and Carbolic Acid—

Rouen,	5 t.	14 c.	2 q	£80

D sinfectants—

Bombay,		6 c.		£13
Alexandria,	8 bxs.	50 dms.	5 brls	73
Rangoon,	20 cks.			8

Dried Blood—

Las Palmas,	4 t.			£27

Guano—

Valencia,	3 t.	13 c.		£30

Magnesia—

La Libertad,	3 cs.			

Manure—

Las Palmas,	12 t	10 c.		£53
Antwerp,	10	11	3 q.	44

Oxalic Acid—

Stettin,	4 t.	7 c.		£145

Paint—

Accra,	17 pks.			
Addah,	23			
B Ayres,	11			
Gd. Bassam,		20 dms.		
Guayaquil,		40		
Havana,		16 kgs.	6 cks.	
Havre,			6	
Jeremie,			2	
Kerasunde,			8	
Matanzas,			4	
Para.		43 dms.		
Penang,		8 kgs.		
St. Thomas,		78	2	
Saltpond,	1 cs.			
Smyrna		60		
Sierra Leone,		7 dms.		

Painters' Colours—

Alexandria,	191 pks.			
Callao,	205			
Cartagena, N.G.	160			
Galatz,	1			
Ghent,	28			
Kingston,	21			
Maceio,		24 cks.		
Madras,	41			
Maracaibo,	7			
M. Video,	20			
Pernambuco,		40 kgs		
Rio de Janeiro,			12 brls.	
Valparaiso,	630			

Paraffin Wax—

Genoa,	150 bgs.			
Leghorn,	52			
Palermo,	5			
Seville,	10			
Trieste,		10 cs.		

Phosphorus—

Vera Cruz,		2 cs.		£22

Potassium Bicarbonate—

New York,	1 t.	1 c.	2 q.	£28

Potassium Bichromate—

Rio de Janeiro,	1 t.	4 c.	3 q.	£48
Syra,		12		21
Alexandria,	1 ck.			6
Salonica,	2 t.		3	71

Potassium Carbonate—

Galatz,		9 c.	1 q.	£8

Potassium Chlorate—

Ghent,	1 t.			£30
B. Ayres,		10 c.		16
Melbourne,	1			36
New York,	5	10		154
Demerara,	1			33
Vera Cruz,	1			30
Naples,	1	10		48
Tampico,		5		9
Yokohama,	2	14		90
Rotterdam,	1			36
Hiogo,	22	10		640

Potassium Prussiate—

Calcutta,		5 c.		£16
Genoa,	4 cks.			50
Vera Cruz,	1			55

Potassium Silicate—

Amsterdam,	1 t.	4 c.	2 q.	£10

Salt—

Antwerp,	100 t.			
Baltimore,	25			
Boston,	350			
B. Ayres,	22	7 c		
Calcutta,	5,441			
Carleton, N.B,	46			
Copenhagen,	697			
Demerara,	8	18		
E. London,	8	19		
Ghent,	25			
Gd Bassam,	12	10		
Hamburg,	34	18		
Iquitos,	5	18		
Kingston,	10			
Lagos,	40			
Melbourne,	50			
Monrovia,	12	10		
Montreal,	28	6		
N. Orleans,	130			
Rosario,	7	2		
Wallace, N.S.,	28			
Wilmington,	450			

Salt Cake—

Lisbon,	15 t.	3 c.		£30
Baltimore.	65	12		93
Philadelphia,	50	7		76
Antwerp,	200			218
Terneuzen,	105			136
Rangoon,	3	7		5

Sheep Dip—

Calcutta,	1 t.	14 c.	2 q.	£38
Portland, Me.,	2	5		50

Soap—

Accra.	1,050 bxs			
Algoa Bay,	553	47 cs.		
Barbadoes,	200	1		
B. Ayres,		1		
Calcutta,		3		
Cape Town,	1,070			
Chefoo,	46			
Delagoa Bay.	773			
Demerara,	1,180	40		
Durban.	792	18		
E. London.	100			
Gibraltar.	100			
Guayaquil,	550			
Lagos,	380			
Malta,		41		
New York,			50 dms.	
Padang,		15		
Panama,		1		
Para,	200	1		
Pt. Elizabeth,	550	30		
Pt. Natal,	4 100	66	26 bdls.	
Rangoon,		8		
Rotterdam,		162		
St. Lucia,	100			
St. Thomas,	555			
Savannah,	50			
Sekondi,	50			
Smyrna.	30			
Talcahuano,		1		
Valparaiso,	21			

Soda—

Genoa,	200 bgs.		26 cks.	

Soda Alkali—

Tampico,		17 brls.		

Soda Ash—

Boston,	80 bgs.		67 cks.	
B. Ayres,		85 pks.		
Copenhagen,	400			
M. Video,			75 brls.	
Naples,	50			
Oporto,				8
Philadelphia,	320		66 tcs.	
Trieste,	100			
Varna,			20 brls.	

Sodium Acetate—

Barcelona,	17 cks.			

Sodium Bicarbonate—

Genoa,	50 bgs.			
Kurrachee,	250 kgs.			

Sodium Bichromate—

Vera Cruz,	10 cks.			

Sodium Chlorate—

Lisbon,	1 ck.			

Sodium Sulphate—

Rio de Janeiro,			6 cs.	

Sodium Tartrate—

M. Video,	10 cks.			

Starch—

Barcelona,			33 pks.	

Strontia—

Hamburg,	10 t.	5 c.		

Sulphur—

Boston,	100 t.	4 c.		
Colombo,	1	1		

Sulphuric Acid—

Iquitos,		9 c.		

Superphosphates—

Las Palmas,	25 t.			
Teneriffe,	5			
Stettin,	749	18 c.		
Valencia,	350			
Hamburg,	200			
St. Nazaire,	150	1		
Nantes,	64	5		1
Bordeaux,	4	18		1

Varnish—

Genoa,	1 brl.	2 cs.		
Naples,		4		

White Lead—

St. Kitts,	4 cks.			
Valparaiso,		9 cs.		

Zinc Chloride—

Lisbon,	3 t.	10 c.		
Bilbao,	1	5		1

MANCHESTE

Period ending April 2n

Albumen—

France,	4 cks.			

Ammonium Sulphate—

Antwerp,	469 bgs.			

Aniline Colours—

Germany,	10 kgs.	2 cs.		

Aniline Oil—

France,				3d

Aniline Salts—

Germany,	15 brls.			15

Carbolic Acid—

France,	186 btl.			

Creosote Salts—

Holland,	6 cks.			

Extracts—

Christiania,	32 cks.			

Fustic—

Christiania,	50 bgs.			

Magnesium Sulphate—

Gothenburg,	40 bgs.			

Naphthylamine—

Germany,	14 cks.			

Painters' Colours—

Germany,	1 ck.			

Soap—

Germany,				21

Tar—

France,	30 brls.			

HULL.

Week ending April 2nd

Ammonium Sulphate—

Bombay,	88 bgs.			
Palermo,	100			
Stettin,	588			
Venice,	462			

Bleaching Powder—

Reval,	4 cks.			
Stettin,	115			
Venice,	25			

Caustic Soda—

Bombay,	4 cks.			
New York,				290

ls *(otherwise undescribed)*
am, 246 cks. 10 pks.
2 2 cs.
302 210 dms.
ia, { 1,643 slbs. 15 pks.
gen, 20
im, 1
urg, 7 15
16 1
ee, 135
rk, 85 33
g, 17 236
2 5
am, 5
3
15
19 20

cid—
50 kgs.
—
6 cks.

eed Oil—
lam, 401 c.
, 1,434
83
agen, 34
im, 60
, 532
rg, 2,713
en, 173
berg, 85
ring, 85
ping, 99
lam, 489
lm, 705
99
400

ffs *(otherwise undescribed)*
rk, 8 cks.
lam, 2
rg, 2 bgs.
ork, 14 cks.
—
, 50 t.

l Oil—
dam, 101 c.
dria, 38
y, 220
17
163
ania, 153
ansand, 17
eim, 174
burg, 101
rg, 687
hee, 12
ork, 92
dam, 184
ger, 53

e—
burg, 75 t.

l White—
burg, 20 bgs.
gen, 200 sks.
—
dria, 2 cks. 2 dms.
y, 10 cs.
ger, 9

rs' Colours—
rdam, 5 cks. 2 dms.
rp, 1 2 cs. 10
ay, 2 28 20
, 20
ania, 8
iansand, 52 pks.
hagen, 6 4
heim, 9 1 172 dms.
rk, 7
, 3
, 8
urg, 4 pks.
chee, 1 19
ork, 39
40
dam, { 6 50 5 dms.
ger, 2
e, 3
—
rp, 60 t.
, 10
n, 1 ck.
—
iania, 50 cs.
heim, 1
holm, 50
—
rdam, 60 cks.

Tallow—
Bombay, 29 cks.
Stettin, 2
Hamburg, 25
Rotterdam, 24

Tar—
Amsterdam, 6 cks.
Antwerp, 5
Bergen, 2
Copenhagen, 15
Dunkirk, 25
Hamburg, 7
Rotterdam, 32
Stettin, 5

Varnish—
Amsterdam, 3 cks. 1 cs.
Antwerp, 3 brls. 1 dm.
Alexandria, 1 cs.
Ghent, 2
Rotterdam, 5 1
Stockholm, 1

GLASGOW.

Week ending April 7th.

Alumina Sulphate—
Dunedin, £26

Ammonia (Liquid)—
B. Ayres, £213

Ammonium Sulphate—
Falmouth, 15 t.
Rotterdam, 131 14 c.
Barbadoes, 52 4
Jamaica, 14 13¾
Barcelona, 96 3
Cullera, 280 10½
Valencia, 316 19½

Borax—
Rotterdam, £30
Canada, 26
Natal, 2 t. 6 c.

Carbolic Acid—
Christiania, £3

Castor Oil—
Sydney, 1 t. 18½ c.

Caustic Soda—
B Ayres, 29 t. 18 c.
Dunedin, 10 14½

Chemicals *(otherwise undescribed)*
Brisbane, 3 t. 9¾ c.
Melbourne, £56

Coal Products—
Benzine
France, £44
Creosote Oil
France, £3,992
Pitch
Bombay, £81
Hamburg, 11 t. 6 c.
France, 310
Tar
Bombay, £91
Rangoon, £42 10s.
Tar and Pitch
Baltimore, £41

Extracts—
N. Zealand, £130

Gelatine—
Dunedin, £20
New York, 360
Canada, 73

Guano—
Cullera, 97 t. 8¼ c.

Iodine—
Rotterdam. £835

Linseed Oil—
Kingston, Jam., 3 t. 2¼ c.
Melbourne, 12¾
Natal, 2 12½

Logwood—
Dunedin, £189
Lyttelton, 33

Ochre—
Rio de Janeiro, £20

Paint—
Bombay, £30
B. Ayres, 54
Gisborne, 32
Invercargill, 57
Brisbane, 79

Painters' Colours—
Auckland, qty.
Dunedin, ,,
Lyttelton, ,,
St. John's, N'fld., £73
Sydney, ,,
Natal, ,,
Rangoon, £15 11s.
Melbourne, ,,
Santos, ,,

Paraffin Wax—
Russia, £75
Barcelona, 211
Rouen, 54

Potassium Bichromate—
B. Ayres, £42
Barcelona, 188

Potassium Chlorate—
Sydney, £350

Potassium Cyanide—
Melbourne, £456
Sydney, 274

Potassium Prussiate—
Lyons, £252

Potassium Sulphate—
Sydney, £40

Salt—
Sydney, 10 t. 3½ c.

Soap—
B. Ayres, 2 t. 6½ c.
Durban, 34 3
Barcelona, 3 ¼

Sodium Bichromate—
Barcelona, 15¾ c.

Starch—
Rio de Janeiro. £45

Sulphuric Acid—
Rangoon, £137

Tallow—
Johannesburg, 1 t.

Treacle—
Christiania, 22 t. 9 c.
Canada, 3 5½

Waste Salt—
Baltimore, 200 t.

TYNE.

Week ending April 2nd.

Alkali—
Bergen, 5 t. 7 c.
Rotterdam, 1 1
Amsterdam, 32 8

Alumina Sulphate—
Lisbon, 11 t. 6 c.

Ammonia—
Valencia, 65 t.

Antimony—
Antwerp, 1 t.
Rotterdam, 7

Arsenic—
Amsterdam, 14 c.

Barium Binoxide—
Rotterdam, 1 t. 2 c.
Rouen, 7

Barium Carbonate—
New York, 30 t. 10 c.

Bleaching Powder—
Antwerp, 31 t. 11 c.
Lisbon, 10 4
Trondhjeim, 12 2
Christiania, 20 5
Rotterdam, 14 14
Hamburg, 2 10
Amsterdam, 6 10
New York, 12 7

Borax—
Aalborg, 1 t. 2 c.

Caustic Soda—
Dunkirk, 14 lbs.
Christiania, 6 t. 16 c.
New York, 125 11

Disinfectants—
Dunkirk, 2 glns.

Iron Oxide—
Smyrna, 25 t.

Lamp Black—
Christiania, 9 c.

Linseed Oil—
Dunkirk, 310 glns.

Litharge—
Lisbon, 1 t. 6 c.
Christiania, 17
Hamburg, 15
Amsterdam, 1 2

Magnesia—
Genoa, 17 c.
Lisbon, 5
Rotterdam, 14 lbs.
Hamburg, 1 t. 8

Manure—
Aalborg, 3 bgs.

Paint—
Antwerp, 3 t.
Bergen, 15 c.
Dunkirk, 2 18

Pitch—
Dunkirk, 1 c.

Potash—
Dunkirk, 2 c.

Pyridine—
Rotterdam, 2 t. 11 c.

Salt—
Dunkirk, 3 c.

Soap—
Dunkirk, 3 c.

Soda—
Aarhuus, 25 t. 4 c.
Christiania, 8 2
Dunkirk, 3
Rotterdam, 10
Svendborg, 2 2

Soda Ash—
Bergen, 10 t.
Hamburg, 10 8 c.

Sodium Hyposulphite—
Antwerp, 2 t.
Christiania, 19 c.

Sodium Silicate—
Christiania, 2 c. 2 c.

Sodium Sulphate—
Christiania, 100 t. 17 c.
Gothenburg, 205

Sulphur—
Christiania, 150 t.
Gothenburg, 75
Rotterdam, 5

Tallow—
Genoa, 30 t. 7 c.
Dunkirk, 2 q.
Valencia, 1 18

Tar—
Dunkirk, 71 glns.

Turpentine—
Dunkirk, { 5 c. 5 glns.

Varnish—
Christiansund, 2 t. 9 c.
Dunkirk, 1

White Lead—
Rouen, 5 t. 7 c.

GOOLE.

Week ending March 30th.

Benzol—
Dunkirk, 1 ck.

Chemicals *(otherwise undescribed)*
Amsterdam, 10 cks.
Ghent, 2
Hamburg. 1 dm.

Coal Products *(otherwise undes.)*—
Boulogne, 25 cks. 1 tin 2 pks.
Ghent, 2
Rotterdam, 138

Colours—
Amsterdam, 200 bgs.
Antwerp, 2 cks.
Ghent, 1 cs.

Manure—
Antwerp 80 bgs
Ghent, 129

Pitch—
Antwerp, 617 t.

Soap—
Antwerp, 18 cs.
Ghent, 1

GRIMSBY.

Week ending April 2nd.

Alkali—
Hamburg. 5 cs.

Chemicals *(otherwise undescribed)*
Antwerp, 10 kgs 4 cs. 80 dms.

Coal Products *(otherwise undes.)*—
Dieppe, { 2 kgs. 58 cks. 1 cs.
Hamburg. { 31 60 pks. 7 brls.
Malmo, 2

Colours—
Antwerp, 2 cks. 1 cs.
Hamburg, 4 2 10 pks.
Port au Prince, { 1 14 48 dms.
Rotterdam, { 1 7 kgs

Manure—
Esbjerg, 2,345 bgs.

PRICES CURRENT.

WEDNESDAY, April 13th, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary*

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/6	&	8/6
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11¼
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	2½
Arsenic, white powdered	nett per ton	19	5	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- & 33/-		
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	8	15	0
„ „ (grey) Hull	„	8	15	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	6	15	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	5	0
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	5	0
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	1
„ 50/90 „	„	0	1	2
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	6½
Grease Oils, 22° Tw.	per ton	2	10	0
Pitch, f.o.b. Liverpool or Garston	„	2	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	5
Copper	per ton	51	0	0
„ Sulphate	„	16	5	0
„ Oxide (copper scales)	„	45	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	13	17	6
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	24	10	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
„ „ (grey) (ex ship	„	7	10	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	0	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	6
Oils:—				
Cotton-seed	per ton	15	10	0
Linseed	„	17	0	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	5¼
„ Cyanide, 98%	„	0	1	1
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	15	0
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton f.o.r. w'ks.	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ f.o.r. w'ks.	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ f.o.r. w'ks.	4	0	0
„ „ (Alkali) 58 %	„ „ f.o.r. w'ks.	4	0	0
„ „ (Soda Crystals)	„ „ f.o.r. w'ks.	2	5	0
„ Acetate (ex-ship)	„	11	17	6
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3¼
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton	10 ton lots	8	5	0
„ „ (74 % Caustic Soda) „ „ „	10 ton lots	8	0	0
„ „ (70 % Caustic Soda) „ „ „	10 ton lots	7	5	0
„ „ (60 % Caustic Soda) „ „	10 ton lots	6	5	0
„ „ (pure liquor 90° Tw.) „ „	10 ton lots	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	19	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅝
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅛
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	67	15	0
Zinc (Spelter)	„	18	12	6
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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sements intended for insertion in the current week's issue ch the office by **Thursday morning** at the latest.

THE SALT UNION DIFFERENCES.

THERE has been so much discontent rife among Salt Union shareholders of late that it almost seems as if the complaint had become chronic, so that now they really do not know what it is they do want.

We thought the Shareholders' Committee had succeeded in performing a difficult task, wisely, and that in the near future there was a prospect of brighter times; but it would appear that we have been altogether mistaken, if any credence is to be placed in the counter charges of the Salt Union Shareholders' Association.

The only faults this Association can find, however, are, to say the least, indefinite, being practically covered by the bare statement of the belief that the action of the original Shareholders' Committee "will prove disastrous to the best interests of the company."

There is no hint as to what this Association considers to be the "best interests," or how they may be furthered; but, instead, there is a rather lengthy and personal attack on the chairman of the Shareholders' Committee.

This Association seems to be very keen on a "strong committee," and if this is their sole aim and object we can only see one thing for it to do, and that is to graft its own local strength and talent (which, of course, must be impressive) upon the Shareholders' Committee, which, without doubt, has already shown its strength and ability.

Such a combination would perhaps be able to earn handsome dividends in a few months—and perhaps not.

However, if the Association is not willing to amalgamate with the Committee, we can only assume that the motives which, it is asserted, actuate the members are not trustworthy, but are merely the cloaks which cover ulterior designs.

It must not be forgotten that the Shareholders' Committee, so to speak, faced the music at the last annual meeting, when the shareholders were at liberty to criticise and suggest; so that whatever recommendations it makes are made more or less with the authority of the majority; whereas the Association can only speak of itself, for itself, and that a very local self.

But apart from all comparisons and such like considerations, this spread of dissension will prove more damaging to the interests of the Union than a hundred McDowells, McDougalls, Committees, or Associations. Internal disputes and bad feeling are fatal to success in all industrial affairs. There is no knowing where they will end. Why not a Shareholders' Alliance to pick holes in the Association, and after that a Shareholders' Reform League to put everybody to rights—or try to, and so on *ad infinitum* ?

If there are any substantial grievances that the Committee has not considered sufficiently (according to the views of the

Association), out with them and effect a compromise; but if there are to be two or three generals in the shareholders' camp—well, we pity the shareholders, that's all.

They will soon be out of one "Union" into another, where there is only one "director," and he is the "Master of the House."

THE BACTERIAL PROCESS AND INDUSTRIAL SEWAGE.

At the last meeting of the London Section of the Society of Chemical Industry, a paper by Mr. W. J. Dibdin on "The Bacterial Treatment of Sewage containing Manufacturing Refuse" was read by Dr. G. Thudichum. It was pointed out that at Leeds the sewage contains a large amount of manufacturing refuse, derived chiefly from tanneries, galvanizing and copper works, and breweries, yet the results of dealing with 200,000 gallons of Leeds sewage per diem by the method were very satisfactory. When the filtration beds were used thrice daily, the amount of oxygen absorbed by the filtrate from the first bed (coarse breeze) was 1·31 grains per gallon, and from the second bed (fine breeze) 0·53 grains per gallon. The untreated effluent had been proved previously to give an oxygen absorption of 3 91 grains per gallon. At West Bromwich the sewage is very much contaminated with the refuse from galvanizing works, but the bacterial treatment answered well. The iron in the sewage of West Bromwich and Wolverhampton renders chemical treatment necessary before the filtrate can be turned on to land, and Mr. Dibdin considered that this treatment was better carried out on the effluent before it was subjected to the action of the filter-beds. At Yeovil the sewage receives the refuse from leather dressing, and contains arsenic. Nevertheless the bacterial method of treatment could be successfully applied to Yeovil sewage. The method had been tried on sewage in which the refuse from nearly every important industry was found; and whatever the nature of the refuse which predominated, the treatment was perfectly satisfactory. In one case only had any difficulty been experienced. The refuse from gasworks liquor prevented the bacterial treatment of sewage until the latter was considerably diluted. After dilution, sewage contaminated with gasworks refuse could be put on the filter-beds with perfectly good results.

In the discussion, Mr. Wood Smith questioned if the bacterial treatment disposed of pathogenic organisms, and suggested that it ought to be followed by treatment with chlorine or other sterilizing agent. This proposal was ridiculed by Dr. Dupré and others. Dr. Dupré said that it was a well-known fact that typhoid bacilli lived for a very brief period in town sewage, and that few could escape the filter-beds. He hoped that the Royal Commission which would shortly be asked to inquire, on behalf of the Board of Trade, into methods of treating sewage would appoint Sir E. Frankland as their chemical adviser. [There is something very amusing in this apparently ingenuously expressed wish, seeing how obviously the wish must have been inspired by a *penchant* for bacterial methods. Ed. *C.T.J.*] He considered that manufacturing refuse which could not be dealt with on a sewage farm could be treated by the bacterial method. Dr. Clowes thought it remarkable that oxidation of ferrous to ferric salts in sewage had been attributed to the agency of the bacteria, and wondered if this oxidation was not due merely to the ærating action of the filter. Mr. Parkes pointed out that the bacterial treatment of sewage was a development of the nitrification process, which went on in soil through the agency of nitrifying organisms, and was quite distinct from the septic-tank method of dealing with sewage.

In his reply, Dr. Thudichum stated that the bacteria of typhoid had no chance of surviving the treatment of the bacterial process, as they had been found to be no longer alive in a main sewer at a distance of only 50 yards from the point where the sewage from a fever hospital entered. The amount of solid matter screened off in the process was quite trifling; and the rest of the suspended solids were completely peptonized and taken into solution. Therefore, strictly speaking, the method yielded no sludge.

Sewage Treatment Expenditure.—The Rivers Committee of the Manchester Corporation met on Monday to consider the estimates for the current year. The estimated expenditure on the revenue account is £3,983., the amount required from the rates being £2,917. Sewerage and sewage disposal works are estimated to require £62,244., but the amount to be provided for out of the rates is £58,137. The chief items of estimated expenditure are £4,500. weekly wages; £5,000. for lime, chemicals, and laboratory materials; £4,935 for the sludge steamer; £2,000. for deputation and travelling expenses, and luncheons to be refunded to capital account; £10,000. for main drainage works, for which borrowing powers cannot be obtained; £21,470. interest; and £9,933. sinking fund. The estimate for the making of filter beds on 37 acres of land at Davyhulme varies from £80,000. to £127,000., according to their manner of construction.

Selected Correspondence.

THE SALT UNION DIFFERENCES.

(*To the Editor of The Financial News.*)

Sir,—The letters which you publish from Sir Joseph Verdin and Dr. McDougall are satisfactory, so far as they go. It seems that Dr. McDougall's Winsford "association" does not represent Sir J. Verdin, and that Dr. McDougall's use of Sir Joseph Verdin's name at the last general meeting was totally unauthorised; but this raises the question who do Dr. McDougall and his colleagues—two local doctors, two Cheshire farmers, etc.—represent? What does his "association" consist of? Who are they?

Dr. McDougall says that "from information which we have recently received, we also think that it should be known that Mr. John Holt, one of the directors recommended by Mr. McDowell's committee, is also a director of the Lagos Salt Company." Under these circumstances, I think it should be known that Dr. McDougall's information is entirely incorrect, and that Mr. Holt is not, and I believe never was, a director of the Lagos Salt Company. Mr. Holt's "dual interest," about which Dr. McDougall is so anxious, consists merely of this, that Mr. Holt ships to Africa merchandise of every conceivable description—including, sometimes, a certain quantity of salt. If Dr. McDougall is honestly desirous of keeping all dual interests off the board, why has his association nominated for directorships three of the salaried servants of the company—gentlemen whose management may be one of the first things to be looked into by the new directors? It is no use disguising the real objections to Mr. Holt by Dr. McDougall's "association." It is that Mr. Holt is a gentleman who will sift things to the bottom, and there are things that want sifting—things that Dr. McDougall's real supporters do not want to be sifted. It is nonsense to pretend that everything is as it should be. Our rivals working the same brine and selling the same salt in the same markets have grown rich whilst we have grown poor. Their trade has increased; ours has decreased. They have extended and enlarged and are still extending and enlarging their works; we have 25 per cent. of our works shut up idle.

Dr. McDougall complains that my committee has not sufficiently disclosed its policy; but will you allow me to point out that Dr. McDougall and his "association" do not attempt to formulate any policy at all, except, apparently, that of undoing the resolution which the shareholders have already passed with great unanimity for transferring the business from London to Liverpool, and leaving the affairs of the company practically in statu quo. Dr. McDougall says: "We have made proposals of a most favourable character to Mr. McDowell's committee;" but he does not in his letter to you disclose what these proposals are. He does disclose them, however, in a letter which he has written to the *Journal of Commerce*, from which I take the following extract:—"We have only asked for the appointment of two directors, against two by Mr. McDowell's committee, and a joint voice with his committee in the selection of the fifth; yet to this moderate offer no favourable reply has been received. We do not mean to be satisfied with anything less." You will see, therefore, that Dr. McDougall proposes that his self-appointed association are to be given an equal status with that of the shareholders' committee duly and legally appointed by the whole of the 5,000 shareholders of the Union in general meeting assembled, and this, although nobody knows who appointed the McDougall "association," or who are its members, or what is its holding. It will be understood, therefore, that when Dr. McDougall states that he has "made proposals of a most favourable character," he means most favourable to himself.—I am, your obedient servant,

Frederick Walker
(Secretary of the Shareholders' Committee),
34, Coleman-street, E.C., April 20.

Messrs. Fuerst Bros.—The following articles will be shown by Fuerst Bros. at the forthcoming photographic exhibition, Portman-rooms, London, W.:—Lumiere's cinematograph machine, Lumiere's cinematograph special camera for projection only, Lumiere's cinematograph blank negative and positive film (perforated to either Lumiere or Edison gauge), Lumiere's cinematograph film views (Lumiere or Edison gauge), Lumiere's cinematograph accessories, Lumiere's negative and positive films (a large assortment of English and foreign subjects), Lumiere's photographic dry plates, extra rapid, orthochromatic, panchromatic and special X-ray plates, Lumiere's Citos paper, glossy and matte, bromides for contact printing and enlargements, Lumiere's pyro-acetone developer, Lumiere's yellow screens, Hauff's developers (ortol, amidol, metol, glycin, etc.), Hauff's toning and fixing and fixing cartridges, Hauff's thiocarbamid (stain remover), hydroquinone, eikonogen, rodinal, etc., chloride of gold in 15 grain tubes ("Axe" brand, English make), nitrate of silver (cryst. and fused, "Axe" brand, English make), and all photographic chemicals.

The Patent List.

list is compiled from Official sources in the Manchester al Laboratory, under the immediate supervision of E. Davis and Alfred R. Davis, who report professionally he value of Chemical Patents.

PLICATIONS FOR ENGLISH LETTERS PATENT.

White Metal. F. Player. 7,980. April 4.
ing Carbides J. L. Roberts. 8,010. April 4.
cturing Oxide and Salts of Copper. C. K. Mills. 8,096. April 4.
Elements of Secondary Batteries. D. G. Fitzgerald. 8,037. 4.
or Iron, etc. April 4.
Apparatus. A T. Welch. 8,069. April 5.
ng Wood Non-inflammable. H. V. Simpson. 8,111. April 5.
cture of Glass. J. C. Mewburn. 8,113. April 5.
cture of Acetone. E. G. Scott. 8,129. April 5.
g and Storing Fat. E. G. Scott. 8,130. April 5.
ments in Tanning. E. G. Scott. 8,131. April 5.
cture of Litharge. A. H. Tapp. 8,159. April 5.
l Stone. L. P. Ford and T. W. Barber. 8, 26. April 6.
cture of Paper. C. W. Kimmins. 8,235. April 6.
g Apparatus. J. Mittwich. 8,238. April 6.
cture of Soap. C. Davies, H. Arrowsmith, and B. Magrini. 8,244. 6.
emoving Compound. H. G. Smith. 8,259. April 6.
Cooler. G. W. Perks. 8,334. April 7.
Articles Non-Inflammable. J. Stocker. H. Zander, and W. Döblin. April 7.
ng Petroleum and Petroleum Residues. J. C. Berntrop, M. awyk, Q. van L. Hulseboch. 8,462. April 9.
res. A T Dawson and J. Karstairs. 8 468. April 9.
res. A. T. Dawson and J. Karstairs. 8,470. April 9.
ng Sulphates of Soda and Potash into Caustic Alkali J. mann. 8 471. April 9.

TRACTS OF LATEST COMPLETE SPECIFICATIONS.

abstracts are specially prepared for the Chemical Trade Journal, RIGHTS *of publication are* RESERVED. *This is the earliest abstracts of Chemical and allied patents accessible to the*

ments in the Preparation or Manufacture of Borax. C. Masson, loux, and C. Tillière, 57, Rue Botanique, Brussels. Eng. Pat. 10,361. 26, 1897.

onia salts (notably the carbonate) are substituted for soda salts cting the borate mineral. The cycle of operations is as —Ammonia is generated from any convenient source, and nto an absorber containing water. It then passes to a digester, of being revolved. The borate mineral is charged in, and ents carbonated with lime kiln gases. The contents are heated out 60°C., and agitated under pressure for some hours. They run to a filter press and the liquor passed into a re-action , where salt is added, forming ammonium chloride and sodium There must be an excess of ammonia all the time. The s run into crystallisers. The mother liquor is returned to the and re-charged with ammonia. In time they become saturated monium chloride, and are then put into the distilling column er the ammonia, by treatment with lime. The solid residue, g of borate, carbonate and sulphate of lime, is used as a poor until it becomes too rich in sulphate, when it is treated with mmonium carbonate, forming ammonium sulphate and chalk, e hardly being affected. The solid residue therefore goes back process, and the sulphate of ammonia solution is distilled. one figure.

d of Distilling, Fractioning, and Cracking Mineral Oils, and ning various Products therefrom, and Apparatus for that se. V. I. Ragosin, 70, Nikolaevsky-street, St. Petersburg. Eng. Pat. 1,411. ry 18, 1898.

stillation of the petroleum is effected at a low temperature by ion of benzine or other low boiling hydrocarbon, thus giving of vapour. The vapour from the still is "cracked" by t through a heated chamber connected with the still. The are separated in fractional condensers. For details the nine hich accompany the specification should be consulted.

nents in the Manufacture of Cement. T. Holden and C. Major, Bridgwater, Somerset. Eng. Pat 20,670. September 8, 1897.

aterials for making the cement are powdered and used in the There are two figures showing the way the mixture is nto the kiln, so as to ensure even burning of the clinker. Thus, in addition to alternate layers of coke and material, vertical columns of coke run from top to bottom of the kiln, connecting each layer of fuel.

Improved Process for the Production of Nitrites of the Alkali or Alkaline Earth Metals. J. and A. McGowan, both of 14, Maxwell-road, Glasgow. Eng. Pat. 7,715. March 25, 1897.

Suitable quantities of nitrate of soda and caustic soda are melted together, and powdered galena slowly added. Litharge, and nitrite, and sulphate of soda result. The mass, when cool, is leached with water, the insoluble litharge separated, and the soluble products crystallised out fractionally. If preferred, decomposition with vitriol can be resorted to. By varying the proportion of galena the plumbite of soda, formed with small quantities, can be decomposed without the intervention of acid. Also red lead can be obtain *vice* litharge.

Improved Continuous Kiln to Economise Waste Heat by Means of "Assisted Draught." A. Tracy, Merton House, Retford, Notts. Eng. Pat. 6,928. March 17, 1897.

Fans are used to force air through one kiln, containing hot bricks, into a second kiln containing green bricks, so as to utilise the waste heat for "steaming." The waste gases are also passed on through flues to the drying chambers, and their heat utilised before escaping. There is no figure.

THE ACID CONCENTRATING PATENT CASE.

WEBB'S PATENT UPHELD.

ON Saturday last, the Irish Master of the Rolls (Judge Porter) delivered his deferred judgment in the case of Webb *v.* Kynoch Ltd.

The plaintiff, who resides in Manchester, is the patentee of an invention for the concentration of sulphuric acid, and he sought an injunction and other relief against the defendants, who are a Birmingham firm carrying on a cordite factory at Arklow, for an alleged infringement of his patent by erecting a contrivance upon the lines of his specification at the Arklow Works. The defendants pleaded that their contrivance was not an infringement of the patent. The Master of the Rolls held that Messrs. Kynoch's apparatus when originally put up was identical, and as it stood at present was substantially similar to the plaintiff's invention. He accordingly ruled that the

PATENT HAD BEEN INFRINGED.

The second defence relied upon by the defendants was that the plaintiff's patent was not new, having been, as alleged, already covered by the patents of Chance, Garroway, and Veitch. Upon this branch of the case, the Master of the Rolls found that, although the details used in the working of the plaintiff's patent were not new, the combination or arrangement which he specified for, was new, and presented a more expeditious and a more effective contrivance for the concentration of sulphuric acid than any previously invented. Reviewing the authorities to be found in decided cases, he arrived at the conclusion, without any doubt, that such a combination or arrangement should be adjudged to be the subject of a valid patent. He accordingly gave judgment for the plaintiff, and, as there had been considerable expert evidence in the course of the trial, awarded costs upon the higher scale, together with the costs of the motion for an interlocutory injunction. The judgment, which is lengthy, will be abstracted under Legal Intelligence in our next issue.

GERMAN CHEMICAL TRADE.—The report of the directors of the Chemische Fabrik vorm, E. Schering, Berlin, for 1897, has been issued, showing gross profits for the year amounting to 1,337,177m., and net profits 415,549m., as compared with 569,900m. in 1896. It is proposed to distribute the profits as follows: To the reserve fund, 20,937m. (28,406m. in 1896); bonuses and commissions, 90,663m. (131,398m. in 1896); and as 7½ per cent. dividend, 225,000m. Last year, the dividend was 11 per cent. It is also proposed to pay 4½ per cent. dividend on the 1,500,000 preference shares, a sum of 67,500m. being appropriated for this purpose. The reserve fund now amounts to 1,765,110m., or 39·22 per cent. of the working capital. The goods, cash, bills, book debts, etc., to the credit of the company at the end of the year amounted to 4,024,219m. The report of the Meister Lucius and Brüning Dye Manufacturing Company, of Höchst-on-the-Main, gives the total profit for last year as £347,980, as against £387,706. for 1896. After deducting the usual appropriations, a net profit of £307,020. is shown, out of which a dividend at the rate of 26 per cent. has been declared, as against 28 per cent. for a series of years past. It is stated that the selling prices of the Company's products experienced a further fall last year, and that the end of the decline does not seem to have been yet reached. At present, quantitatively considered, the volume of the Company's business is satisfactory.

TABLES FOR USE IN AGRICULTURAL ANALYSIS.

% P_2O_5 (WITH CORRECTION).—*Concluded from page 255.*).

Grms. $Mg_2P_2O_7$	·000 % P_2O_5	·001 % P_2O_5	·002 % P_2O_5	·003 % P_2O_5	·004 % P_2O_5	·005 % P_2O_5	·006 % P_2O_5	·007 % P_2O_5	·008 % P_2O_5	·009 % P_2O_5
·27	8·97	9·00	9·03	9·06	9·10	9·13	9·16	9·19	9·22	9·26
8	9·29	9·32	9·35	9·38	9·42	9·45	9·48	9·51	9·54	9·58
9	9·61	9·64	9·67	9·70	9·74	9·77	9·80	9·83	9·86	9·90
·30	9·93	9·96	9·99	10·02	10·06	10·09	10·12	10·15	10·18	10·22
1	10·25	10·28	10·31	10·34	10·38	10·41	10·44	10·47	10·50	10·54
2	10·57	10·60	10·63	10·66	10·70	10·73	10·76	10·79	10·82	10·86
3	10·89	10·92	10·95	10·98	11·02	11·05	11·08	11·11	11·14	11·18
4	11·21	11·24	11·27	11·30	11·34	11·37	11·40	11·43	11·46	11·50
5	11·53	11·56	11·59	11·62	11·66	11·69	11·72	11·75	11·78	11·82
6	11·85	11·88	11·91	11·94	11·98	12·01	12·04	12·07	12·10	12·14
7	12·17	12·20	12·23	12·26	12·30	12·33	12·36	12·39	12·42	12·46
8	12·49	12·52	12·55	12·58	12·62	12·65	12·68	12·71	12·74	12·78
9	12·81	12·84	12·87	12·90	12·94	12·97	13·00	13·03	13·06	13·10
·40	13·13	13·16	13·19	13·22	13·26	13·29	13·32	13·35	13·38	13·42
1	13·45	13·48	13·51	13·54	13·58	13·61	13·64	13·67	13·70	13·74
2	13·77	13·80	13·83	13·86	13·90	13·93	13·96	13·99	14·02	14·06
3	14·09	14·12	14·15	14·18	14·22	14·25	14·28	14·31	14·34	14·38
4	14·41	14·44	14·47	14·50	14·54	14·57	14·60	14·63	14·66	14·70
5	14·73	14·76	14·79	14·82	14·86	14·89	14·92	14·95	14·98	15·02
6	15·05	15·08	15·11	15·14	15·18	15·21	15·24	15·27	15·30	15·34
7	15·37	15·40	15·43	15·46	15·50	15·53	15·56	15·59	15·62	15·66
8	15·69	15·72	15·75	15·78	15·82	15·85	15·88	15·91	15·94	15·98
9	16·01	16·04	16·07	16·10	16·14	16·17	16·20	16·23	16·26	16·30
·50	16·33	16·36	16·39	16·42	16·46	16·49	16·52	16·55	16·58	16·62
1	16·65	16·68	16·71	16·74	16·78	16·81	16·84	16·87	16·90	16·94
2	16·97	17·00	17·03	17·06	17·10	17·13	17·16	17·19	17·22	17·26
3	17·29	17·32	17·35	17·38	17·42	17·45	17·48	17·51	17·54	17·58
4	17·61	17·64	17·67	17·70	17·74	17·77	17·80	17·83	17·86	17·90
5	17·93	17·96	17·99	18·02	18·06	18·09	18·12	18·15	18·18	18·22
6	18·25	18·28	18·31	18·34	18·38	18·41	18·44	18·47	18·50	18·54
7	18·57	18·60	18·63	18·66	18·70	18·73	18.76	18·79	18·82	18·86
8	18·89	18·92	18·95	18·98	19.02	19·05	19·08	19·11	19·14	19·18
9	19·21	9·24	19·27	19·30	19·34	19·37	19·40	19·43	19·46	19·50
·60	19·53	19·56	19·59	19·62	19·66	19·69	19·72	19·75	19·78	19·82
1	19·85	19·88	19·91	19·94	19·98	20·01	20·04	20·07	20·10	20·14
2	20·17	20·20	20·23	20·26	20·30	20·33	20·36	20·39	20·42	20·46
3	20·49	20·52	20·55	20·58	20·62	20·65	20·68	20·71	20·74	20·78
4	20·81	20·84	20·87	20·90	20·94	20·97	2·00	21·03	21·06	21·10
5	21·13	21·16	21·19	21·22	21·26	21·29	21·32	21·35	21·38	21·42
6	21·45	21·48	21·51	21·54	21·58	21·61	21·64	21·67	21·70	21·74
7	21·77	21·80	21·83	21·86	21·90	21·93	21·96	21·99	22·02	22·06
8	22·09	22·12	22·15	22·18	22·22	22·25	22·28	22·31	22·34	22·38
9	22·41	22·44	22·47	22·50	22·54	22·57	22·60	22·63	22·66	22·70
·70	22·73	22·76	22·79	22·82	22·86	22·89	22·92	22·95	22·98	23·02
1	23·05	23·08	23·11	23·14	23·18	23·21	23·24	23·27	23·30	23·34
2	23·37	23·4	23·43	23·46	23·50	23·53	23·56	23·59	23·62	23·66
3	23·69	23·72	23·75	23·78	23·82	23·85	23·88	23·91	23·94	23·98
4	24·01	24·04	24·07	24·10	24·14	24·17	24·20	24·23	24·26	24·30
5	24·33	24·36	24·39	24·42	24·46	24·49	24·52	24·55	24·58	24·62
6	24·65	24·68	24·71	24·74	24·78	24·81	24·84	24·87	24·90	24·94
7	24·97	25·00	25·03	25·06	25·10	25·13	25·16	25·19	25·22	25·26
8	25·29	25·32	25·35	25·38	25·42	25·45	25·48	25·51	25·54	25·58
9	25·61	25·64	25·67	25·70	25·74	25·77	25·80	25·83	25·86	25·90
·80	25·93	25·96	25·99	26·02	26·06	26·09	26·12	26·15	26·18	26·22
1	26·25	26·28	26·31	26·34	26·38	26·41	26·44	26·47	26·50	26·54
2	26·57	26·60	26·63	26·66	26·70	26·73	26·76	26·79	26·82	26·86
3	26·89	26·92	26·95	26·98	27·02	27·05	27·08	27·11	27·14	27·18
4	27·21	27·24	27·27	27·30	27·34	27·37	27·40	27·43	27·46	27·50
5	27·53	27·56	27·59	27·62	27·66	27·69	27·72	27·75	27·78	27·82
6	27·85	27·88	27·91	27·94	27·98	28·01	28·04	28·07	28·10	28·14
7	28·17	28·20	28·23	28·26	28·30	28·33	28·36	28·39	28·42	28·46
8	28·49	28·52	28·55	28·58	28·62	28·65	28·68	28·71	28·74	28·78
9	28·81	28·84	28·87	28·90	28·94	28·97	29·00	29·03	29·06	29·10
·90	29·13	29·16	29·19	29·22	29·26	29·29	29·32	29·35	29·38	29·42
1	29·45	29·48	29·51	29·54	29·58	29·61	29·64	29·67	29·70	29·74
2	29·77	29·80	29·83	29·86	29·90	29·93	29·96	29·99	30·02	30·06
3	30·09	30·12	30·15	30·18	30·22	30·25	30·28	30·31	30·34	30·38
4	30·41	30·44	30·47	30·50	30·54	30·57	30·60	30·63	30·66	30·70
5	30·73	30·76	30·79	30·82	30·86	30·89	30·92	30·95	30·98	31·02
6	31·05	31·08	31·11	31·14	31·18	31·21	31·24	31·27	31·30	31·34
7	31·37	31·40	31·43	31·46	31·50	31·53	31·56	31·59	31·62	31·66
8	31·69	31·72	31·75	31·78	31·82	31·85	31·88	31·91	31·94	31·98
9	32·01	32·04	32·07	32·10	32·14	31·17	32·20	32·23	32·26	32·30
1·00	32·33	32·36	32·39	32·42	32·46	32·49	32·52	32·55	32·58	32·62

% P_2O_5 (WITH CORRECTION).—*Continued.*

Grms. $Mg_2P_2O_7$	·000 % P_2O_5	·001 % P_2O_5	·002 % P_2O_5	·003 % P_2O_5	·004 % P_2O_5	·005 % P_2O_5	·006 % P_2O_5	·007 % P_2O_5	·008 % P_2O_5	·009 % P_2O_5
1·01	32·65	32·68	32·71	32·74	32·78	32·81	32·84	32·87	32·90	32·94
2	32·97	33·00	33·03	33·06	33·10	33·13	33·16	33·19	33·22	33·26
3	33·29	33·32	33·35	33·38	33·42	33·45	33·48	33·51	33·54	33·58
4	33·61	33·64	33·67	33·70	33·74	33·77	33·80	33·83	33·86	33·90
5	33·93	33·96	33·99	34·02	34·06	34·09	34·12	34·15	34·18	34·22
6	34·25	34·28	34·31	34·34	34·38	34·41	34·44	34·47	34·50	34·54
7	34·57	34·60	34·63	34·66	34·70	34·73	34·76	34·79	34·82	34·86
8	34·89	34·92	34·95	34·98	35·02	35·05	35·08	35·11	35·14	35·18
9	35·21	35·24	35·27	35·30	35·34	35·37	35·40	35·43	35·46	35·50
1·10	35·53	35·56	35·59	35·62	35·66	35·69	35·72	35·75	35·78	35·82
1	35·85	35·88	35·91	35·94	35·98	36·01	36·04	36·07	36·10	36·14
2	36·17	36·20	36·23	36·26	36·30	36·33	36·36	36·39	36·42	36·46
3	36·49	36·52	36·55	36·58	36·62	36·65	36·68	36·71	36·74	36·78
4	36·81	36·84	36·87	36·90	36·94	36·97	37·00	37·03	37·06	37·10
5	37·13	37·16	37·19	37·22	37·26	37·29	37·32	37·35	37·38	37·42
6	37·45	37·48	37·51	37·54	37·58	37·61	37·64	37·67	37·70	37·74
7	37·77	37·80	37·83	37·86	37·90	37·93	37·96	37·99	38·02	38·06
8	38·09	38·12	38·15	38·18	38·22	38·25	38·28	38·31	38·34	38·38
9	38·41	38·44	38·47	38·50	38·54	38·57	38·60	38·63	38·66	38·70
1·20	38·73	38·76	38·79	38·82	38·86	38·89	38·92	38·95	38·98	39·02
1	39·05	39·08	39·11	39·14	39·18	39·21	39·24	39·27	39·30	39·34
2	39·37	39·40	39·43	39·46	39·50	39·53	39·56	39·59	39·62	39·66
3	39·69	39·72	39·75	39·78	39·82	39·85	39·88	39·91	39·94	39·98
4	40·01	40·04	40·07	40·10	40·14	40·17	40·20	40·23	40·26	40·30
5	40·33	40·36	40·39	40·42	40·46	40·49	40·52	40·55	40·58	40·62
6	40·65	40·68	40·71	40·74	40·78	40·81	40·84	40·87	40·90	40·94
7	40·97	41·00	41·03	41·06	41·10	41·13	41·16	41·19	41·22	41·26

ADDITIONAL PER CENTS. P_2O_5 FOR TENTHS OF A MILLIGRAMME.

Mgms. =	·0001	·0002	·0003	·0004	·0005	·0006	·0007	·0008	·0009
% P_2O_5 =	·032%	·064%	·096%	·128%	·160%	·192%	·224%	·256%	·288%

IMPORTS AND EXPORTS FOR MARCH.

ON the whole, the returns are satisfactory. In the *imports* there is a great falling off in indigo. Manures and oils are higher, notably cocoanut, olive, and petroleum. In the *exports* there is a decline in practically all the chemical products.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

Articles.		Quantities. 1897.	1898.
Margarine	Cwt.	89,484	88,708
Copper Ore and Regulus	Tons.	17 485	12,789
Pyrites	,,	63,740	51,597
Tin	Cwt	90,767	54,495
Alkali	,,	17,514	11,323
Brimstone	,,	47,320	37,330
Dyes, Coal Tar	£.	63,452	67,932
Saltpetre	Cwt.	54,470	20,574
Petroleum	Gall.	11,054,302	18,785,823
Turpentine	Cwt.	8,306	20,523
Guano	Tons.	983	3,782
Nitrate of Soda	,,	12,817	19,530
Paraffin	Cwt.	67,320	79,601
Rosin	,,	69,387	11,051
Tallow and Stearine	,,	182,533	137,868
Oil Seed Cake	Tons.	27,136	39,674
Wood Pulp	,,	——	29,182

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.		Quantities. 1897.	1898.
Alkali	Cwt.	474,790	345,873
Cement	Tons.	40,733	33,860
Coal and Coke	,,	2,830,910	3,079,982
Copper, all kinds	Cwt.	71,842	71,477
Iron and Steel	Tons.	351,144	285,000
Chemical Manures	,,	45,561	40,681
Oils, seed	,,	6,192	5,195
Salt	,,	64,936	38,325

Reports of Companies.

AN PETROLEUM AND LIQUID FUEL CO., LTD.

ompany has issued a circular, in which they say that advices and from Baku show that the estimated production of petro- the date that this Company took over the properties up to larch last was over 40,000,000 poods, which included the two prolific fountains. The greater portion of this has been avourable rates. The Board has declared the following vidends—viz., on the preference shares, 6½ per cent. per alculated from the due date of the instalments up to and the 12th of March (28th February old style); on the ordinary per share. These dividends will be paid on April 30th, bsorb £59,062., leaving a large balance available for further and for meeting the reserve, which under article 115 must be the interest of the preference shareholders. The Board will ll a meeting of shareholders to submit a proposal to sub- £10. shares into £1. shares in accordance with Article 49 of of association.

RICAN GOLD RECOVERY COMPANY, LTD.

inary general meeting of this Company was held last week at n-street Hotel, London. The report presented stated that ion in the Transvaal as to patents had entailed a loss of n costs, and that the Company's investments in stocks and participated in the losses attendant on such holdings during although the bulk had now been sold to provide for the necessities; while their mining properties in Western had not developed so favourably as was anticipated, and hem had been abandoned, although, unfortunately, not until nts had been spent in their acquisition and development.— es M'Culloch, who presided, stated that the meeting was al one. A large block of shares was at present held by one which was arranging for dividing them among a larger shareholders. Therefore the proposal now was that the on of the report and accounts should not be dealt with till y, which he could not at present name. He moved the nt of the meeting, which was seconded by Mr. R. Smith to without discussion.

SAN SEBASTAN NITRATE CO., LTD.

profit for the past year amounts to £1,335, which with the alance of £2,324, less £173. for income tax, leaves £3,486. it of profit and loss, which the directors propose to carry During the greater portion of the year—especially since the of the combination—the selling price of nitrate has been isfactory, and under the circumstances manufacture at the oficina has for some time past been restricted to the smallest mpatible with economical working. The condition of the rket is, the report adds, at present discouraging, and no improvement can reasonably be looked for until some fair ble arrangement for the restriction of output is arrived at by Efforts in this direction have not been wanting; but the in adjusting the various quotas have proved so far insur- and prevented any progress being made with the scheme.

BELL'S ASBESTOS COMPANY, LTD.

ctors have for the year ending 31st December, 1897, resolved end a dividend at the rate of 4 per cent. per annum, and to rd the sum of £2,338.

TED WATER AND SOMERSET HOUSE.

the experiences of Maidstone last winter it might be ted that at least no obstacles would be placed in the way of y authority in dealing with the possible sources of danger ir jurisdiction. The public will, therefore, learn with nt that their efforts to do their duty by the community and the continued use of water from a dangerous source have ted by the action of the local justices, with the assistance of ment officials attached to the Inland Revenue Department. case is so irregular, and so important to all sanitary authori- deserves the widest publicity. The facts are briefly these. stone, as in most other towns, there are, in addition to the er supply, a certain number of wells still in use. One of ted in Orchard-street, supplies four houses in that street e not had the public water laid on. In the immediate ood 14 cases of typhoid fever occurred in ten houses, distributed on all sides of the spot where the well is and in dangerous proximity to it. The water, on being analysed by the medical officer of health—who is also analyst to the county of Kent and an exceptionally competent authority—showed signs of organic impurity, not to an alarming extent when taken by themselves, but more than sufficient to prove danger when taken in conjunction with the situation of the well and the known defective condition of the house drains near it. The medical officer, guided by all the circumstances, condemned the water for drinking purposes, as every competent officer must have done in his position; but he did not recommend compulsory closure of the well, hoping to attain the same end more easily by persuasion. The wording of the Act makes it very difficult to obtain an order for compulsory closing except on chemical grounds, and in this case the chemical evidence was of less weight than the other conditions, and, apart from them, susceptible of a more favourable interpretation. However, the sanitary authority, actuated by a laudable anxiety to protect the town, applied for a closing order. It should be observed here that there is no reason why the well should not be closed, as the public water supply is laid on in the street. The case came on for the first time on January 25th, when it was adjourned for the defendant's chemist to attend. At the second hearing, on February 15th, two chemists appeared for the defendant, and pronounced the water wholesome on chemical grounds, as they were quite entitled to do The results of their analysis agreed with those of the medical officer; the difference lay in his interpretation, which was influenced by knowledge not within the reach of the other chemists. The magistrates then took a most singular step. They adjourned a second time, and ordered a sample to be sent to the Inland Revenue Department at Somerset House. At the third hearing, on March 15th, a certificate was produced signed by two officials in the Government laboratory, but not by the principal. The certificate, after giving the results of the analysis, which agreed in the main with those previously made, went on to say:—

> From a consideration of all the results of the analyses there are grounds for stating that the water is not liable to contamination from the immediate neighbourhood of the well, and, although the water on account of its hardness could not be recommended for general domestic purposes, we are of opinion that its use for potable purposes is not likely to prove injurious or dangerous to health.

The magistrates thereupon dismissed the application, with costs against the sanitary authority.

The public importance of the case lies in the fact that wells of this kind are one of the most dangerous and troublesome sources of disease with which sanitary authorities have to deal. It is difficult enough to get them closed at any time under the law, but if the analysts of Somerset-house are to be made the arbiters—which is not provided by the law—it will clearly become impossible. Though doubtless highly competent in their own line, they have nothing to do with water, and still less to do with sanitation. By the Food and Drugs Act of 1875 the Inland Revenue Laboratory was appointed referee for the analysis of food and drugs in disputed cases, but water is expressly exempted by section 2 of the Act. Somerset House, therefore, has no official or legal *status* in the present case. The terms of the certificate quoted above are a sufficient proof that it ought not to be allowed to usurp any such *status*. An analyst has a perfect right to say that a sample of water submitted to him is wholesome and fit to drink, but no one possessing an elementary knowledge of sanitary science would venture to certify, on chemical grounds, that a water is "not liable to contamination" or "not likely to prove dangerous to health." Those are questions the answer to which depends on the conditions surrounding the source of the water. A perfectly pure water may obviously be liable to dangerous pollution if the circumstances favour it. The greatest authorities have long ago laid down the axiom, which is now universally accepted, that chemical analysis can only be accepted as positive evidence of danger, not as negative evidence of its absence. To use the words of the late Sir George Buchanan:—"The chemist can tell us of impurity and hazard, but not of purity and safety. For information about these we must go, with the aid of what the chemist has been able to teach us, in search of the conditions surrounding the water sources." The same principle has been further laid down by the Local Government Board in relation to wells precisely similar to the one in question—"We must go beyond the laboratory for evidence of any drinking water being free from dangerous organic pollution." When a water actually shows traces of organic impurity it is an astonishing subversion of established principles for any responsible person to give a certificate of safety, not only in the present but for the future, on the strength of analysis alone, and without taking the surrounding conditions into account. Considering what they are in the case of the Orchard-street well, one can only describe such a certificate as reckless. The danger to be apprehended is that specific pollution, which there is reason to believe has soaked into the ground, will gradually find its way into the well. The results of the three analyses confirm that danger. There is no discrepancy between them, but the two later ones indicate somewhat more impurity than that originally made, and point to a process of progressive pollution. The medical officer has recommended his committee to apply

for the intervention of the Local Government Board, which is the proper authority to decide the case; and meanwhile the action of the Somerset House analysts is to be brought up in the House of Commons immediately. The interference with the sanitary administration of the country by a Government department which possesses neither authority nor knowledge of the subject is wholly mischievous. In Maidstone alone there are several other wells which ought to be closed, but in face of recent proceedings it is obviously useless for the sanitary authority to take action.—*Times.*

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for February. The total shipments were 62,091,132 gallons, compared with 72,378,443 in 1897. The total for the eight months ending February 1898, were 680,075,533 gallons, against 635,582,257 gallons during the same period in 1897. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Feb., 1898	5,113,967
" " 1897	8,301,238
NAPHTHAS.	
Total, Feb., 1898	1,266,797
" " 1897	1,093,630
ILLUMINATING.	
Total, Feb., 1898	49,228,120
" " 1897	59,447,022
LUBRICATING AND PARAFFIN.	
Total, Feb., 1898	4,018,612
" " 1897	3,489,513
RESIDUUM.	
Total, Feb., 1898	2,463,636
" " 1897	47,040

THE MERSEY SALT SHIPMENTS.

CHIEFLY in consequence of small shipments to Calcutta, the total figures for March are disappointing. It appears that the March shipments to Asia were 14,445 tons, compared with 22,812 tons in March of last year. The previous returns this year showed a large increase, the figures being 40,936 tons, compared with 16,633 tons for the same period last year. Decreases under both heads are shown to British North America, Central and South America, and to Australasia and the Pacific Islands; small increases in both periods are shown to the West Indies, while the shipments to Africa have increased from 3,437 tons in March, 1896, to 5,468 tons last month, the previous shipments being 5,287 tons last year and 10,393 tons this year. The United States imports of salt from the Mersey show a considerable decrease from last month, the figures being 7,843 tons, compared with 10,065 tons in March of last year. Previous shipments during the present year show a slight increase over last year's returns. To other ports in Europe outside of the United Kingdom the export for March increased from 2,888 tons last year to 5,972 tons, the previous figures being much the same as last year. The total amount of salt exported from the Mersey in March was 43,539 tons, compared with 53,400 tons in March, 1896, this including 37,953 tons (compared with 49,116 tons) from Liverpool and 5,586 tons (against 4,284 tons) from Runcorn and Garston. The previous shipments comprised 93,279 tons, against 61,424 tons, of which 84,925 tons (compared with 54,951 tons) were from Liverpool and 8,354 tons (compared with 6,473 tons) from Runcorn and Weston.

AGRICULTURAL INSTRUCTION IN YORKSHIRE.—The East and West Riding County Councils have joined in the establishment of a farm at Garforth, near Leeds, for systematic agricultural instruction to students. A report of the joint committee has just been presented, and shows that certain experiments and demonstrations are to be commenced at once. The services of Dr. Somerville, of the Durham College of Science, have been secured, and the laying out, manuring, and other operations of the farm are to be supervised by Mr. Haydon, of the Yorkshire College, under the supervision of Dr. Somerville.

ADVANCE IN LEAD ACETATE.—Mr. F. Boehm, of 16, Jewry-street, London, who is agent for the Chemische Fabrik von J. E. Devrient, with works at Zwickau and Griefswald in Germany, informs us that the convention of German sugar of lead manufacturers have further advanced their price by 1s. 6d. per cwt., which brings the price to 27s. 6d. per cwt. for small lots, on the spot, whilst 5-ton lots and larger quantities are charged at 26s. per cwt., c.i.f. British ports, less 2½ % cash discount.

GOLD OUTPUT IN THE RAND.

ANOTHER RECORD.

THE output from the Witwatersrand district during Ma cabled by the Chamber of Mines, of the South African R amounts to 325,907 ozs., while from outside districts 21,736 reported, a total of 347,643 ozs. This shows an increase of 26, as compared with the previous total. No comparison w corresponding month of 1897 can be made.

	1895.	1896.	1897.	1898.
	oz.	oz.	oz	oz.
January	177,463	148,178	209,832	336,57
February ...	169,295	167,018	211,000	321,23
March	184,945	173,952	232,067	317,64
April	186,323	176,707	235,698	—
May	194,580	195,008	248,305	—
June	200,941	193,640	251,529	—
July	199,453	203,873	242,479	—
August	203,573	213,418	259,603	—
September ..	194,764	202,561	262,150	—
October	192,652	199,889	274,175	—
November ..	195,218	201,113	297,124	—
December ..	178,428	206,517	310,712	—
Total ..	2,277,635	2,281,874	3,034,674	1,005,45

AMERICAN TRADE NOTES.

IT is reported that the Pacific Coast Borax Company, of Sa cisco (which in this country is associated with Redwood's Works, Ltd.), contemplates erecting a large factory at Dagg Bernardino County, Cal., for the purpose of manufacturing bor This will not affect the output of the Alameda plant.

The J. H. Parsons Chemical Co., of Chicago, owing to the demand for the boiler compounds it manufactures, has en factory.

Messrs. Harrison Bros. & Co., the well-known white-lead manufacturers, of Philadelphia, have become incorporated u title of Harrison Bros. & Co. The officers are John Harris dent; George L. Harrison, first vice-president; Thomas S. second vice-president; C. Leland Harrison, secretary and tre

It is said that the Indiana State officials are active in up the recent ruling of the State Supreme Court, and are clos wells from which gas is allowed to go to waste. Over 100 we Standard Company have been closed.

Mr. William Bedding, representative of Krupp Brothers, Germany, spent several days in Utah recently, superficially into deposits of uranium and other rare elements in this field, parted for Arizona until after the disappearance of snow in th In the Tintic District, Juab County, and also in the iron bel County, uranium, molybdenum, and other rare elements are to exist, but so far nothing has been done in the line of intel vestigation. Mr. Bedding left a representative in this field.

In the Tennessee phosphate districts operations have shown improvement during February, and the shipments in that mo the largest yet recorded, being 23,693 tons, of which 1,800 c Hickman County, and the remainder from Mt. Pleasant. I able that the March shipments will be still larger. Stocks, the good demand, decreased to 5,000 tons on March 1st. On hand, prices have improved, and many miners are understood hind on contracts, being rather short of phosphate rock in ha export demand is also improving, and in February amounte tons, which will probably be increased to 6,000 or 7,000 tons The General Phosphate Company is working on an of their tram tracks and sheds at Solita. The Central Company will pay for the privilege of working the Ru property of 53 acres, £500. in cash and a mining rate per ton. This company will erect a large plant on the The Petrified Bone Mining Co., which was lately organised York capitalists, has purchased a lot and is erecting sheds and struct side tracks. This company intends to buy up the outp small miners, and it will thus prevent these operators from q the market. Shipments are being made by H. D. Ruhm, Jones (who is probably the largest buyer from the small miner J. H. Carpenter & Co.

LONDON INDIGO SALES.

THE second quarterly sale of the year commenced on Monday with a declaration of 9,200 chests, of which 425 chests have been withdrawn and not printed, leaving 8,775 chests to be brought forward, classified in comparison with the corresponding sale last year, as follows :—

	1898. Chests.	1897. Chests.
Bengal	4,567	4,533
Oude	1,576	1,422
Bimlipatam	138	191
Kurpah	1,440	2,272
Madras and Vellore	281	487
Hoody and figs	695	1,024
Manila, Musters, &c.	78	66
Total	8,775	9,995

This assortment includes a capital selection of Bengal suitable for home trade purposes, and a fair quantity of good and fine. The Oude offering is made up almost entirely of old stock, nearly all the new goods having been shipped to other markets. Bimlipatam is in small supply and of about average quality. Kurpah continues comparatively scarce, the Suez and Japanese markets affording a more profitable outlet at present than London. Most of the lots to be offered are of ordinary description, with a small proportion of fine and very little low. Madras is also in limited supply, but the variety is fairly good. Imports of figs for the first quarter of the year fell to 41, against 726 chests, consequently there is only a restricted show of this class, the falling off being most noticeable in Hoody. After the January sales the demand was good, and a very steady business was transacted in Bengal, Oude, and Kurpah at rather firmer prices. Some fine parcels were also realised for Russia at full rates. When the large declarations for the current sales were made known there was a lull, buyers trying to hold off until the sales, but lately inquiry has revived, and some lots have been cleared from the catalogues. A satisfactory feature has been that deliveries have, in many instances, directly followed sales, indicating that stocks in the hands of consumers are practically exhausted. It has been the custom in recent years for some leading buyers to keep well ahead with their holdings; indeed, following a favourable sale, it has not been at all unusual to find a dyer or a calico printer with a twelve months' supply of indigo in his storeroom. Last year, for reasons already sufficiently familiar, with almost one accord these holders determined to work out their reserves. This process naturally caused a great slackening of demand, but its ultimate effect cannot fail to be highly beneficial in insuring a more regular and stable market, with quicker clearances. The last Calcutta season was probably the most disastrous on record for the planters. In addition to the falling off in quantity, the quality was so deficient as to justify the computation of a leading Calcutta house that the total yield of colouring matter was fully 33 per cent. below the average. Then the average prices obtained were the poorest ever known, whilst the course of exchange throughout the season was also against the seller. As the authority previously quoted clearly puts it, "Europe and America will receive from Calcutta about £900,000. worth of indigo, against an average of £1,750,000. annually during the last 25 years." Whilst producers have thus fared so badly, consumers have been reaping the benefit. Side by side with a diminished supply, prices for many sorts have been unprecedently low. One of the chief contributing causes of this extraordinary situation has been the depressing effect of the excessive stocks in London. Improved deliveries and decreased shipments are rectifying this, and it is safe to predict that not many months hence the London stock will be considerably below the average. As the Continent has taken far less than its actual requirements direct from Calcutta, it is anticipated that London will see a brisker export demand during the next nine months than for some years past. Altogether the opinion does not seem unreasonable that consumers would be very well advised to avail themselves, whilst they have the opportunity, of the present values and choice. Indications for new crop are so far favourable. Deliveries, January 1st to March 31st: 1898, 3,875 chests; 1897, 3,753 chests. Stocks, April 16th: 1898, 17,427 chests; 1897, 22,803 chests.

The sale opened with a full attendance of home and Continental buyers, and showed a good demand throughout at previous rates. Occasionally, when sellers forced realisation, parcels were sold rather cheap.

At the close of the sales on Wednesday, the final figures were :—Total withdrawn and bought in 7,628 chests, sold in auction 1,572, to which are added 688 sold privately from withdrawals, making total sold 2,260 chests. Lowest and highest prices realised were: Bengal, 2s. 5d. to 3s.; Oudes, 1s. 8d. to 3s. 4d.; Bimlipatam, 1s. 6d. to 3s. 2d.; Kurpah, 1s. 5d. to 2s 6d.; Madras, 8d. to 2s. 6d. per lb. There were no figs sold.

EXPORTS OF ALKALI AND BLEACH.

THE following returns, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries for February, 1898, as compared with February, 1897 :—

ALKALI.

Port.	1897.	1898.	97.	1898.
	Cwts.	Cwts.	£	£
Russia	8,254	5,735	2,064	1,913
Sweden and Norway	3,584	6,467	612	1,566
Germany	4,532	11,033	1,353	2,493
Holland	5,317	9,044	1,130	1,951
France	3,397	3,406	1,261	1,357
Spain and Canaries	25,158	28,211	7,570	9,295
Italy	22,514	17,585	7,025	5,371
United States	156,099	82,094	35,010	15,528
Australasia	18,574	13,854	5,517	4,185
British North America	2,839	5,132	597	1,398
Other countries	79,400	101,552	21,377	29,601
Total	329,668	284,113	83,516	74,658

BLEACHING POWDER, ETC.

Port.	1897.	1898.	1897.	1898.
	Cwts.	Cwts.	£	£
United States	44,003	57,950	14,018	16,892
Other countries	29,438	22,421	9,703	6,957
Total	73,441	80,371	23,721	23,849

Trade Notes.

NOT ALWAYS.—The bounce of the American "boomer" does not seem to secure the same success in this country as it does across the water, as several events have recently shown, yet this booming tendency seems even to invade trade journalism in the States. Like their bigger brethren, however, their big talk sometimes gives the show away. The company frauds of Brotherton & Van Ee have been making a stir in London, and a worthy contemporary, after no little self-laudation for having shown them up long ago, concludes with the following panegyric: "When will the British public reform their ways as regards "mining speculations, and go into mining propositions with the same "care as they would exercise in going into any manufacturing "business? Also when will they learn to trust the *always reliable* "*words* of the 'Engineering and Mining Journal'?" (The italics are ours). Well, not "always" if you please, because we cannot help pointing to the absurdly erroneous figures which the E. & M. J. perpetrated in a very recent issue, in reference to ammonium sulphate. As our contemporary, with some justice, poses as the greatest industrial statistical authority on earth, bar none, it is all the greater pity that the figures should be so glaringly inaccurate. We all try our best, but none of us are immaculate. So perhaps the British public will do well not to trust even the "always reliable" "E. & M. J." *too* implicitly.

CHANGE OF ADDRESS.—Messrs. Winser and Company, formerly of Harter-street, Princess-street, Manchester, have removed their warehouse and stores to Castle-street, off Deansgate (with frontages to and loading on the main line of the Bridgewater Canal), and their offices are within four minutes' walk, being 312, Deansgate, over the newly-erected branch of the Union Bank of Manchester, opposite the Great Northern Railway Company's new goods station.

COAL IN IRELAND.—A large bed of coal, 4ft. 6in. thick, covering an area of about 500 acres, has been discovered near Ballycastle, county Antrim. For some time past a local syndicate has been making investigations, and, according to the report of Mr. G. J. Kell, a mining engineer of Barnsley, the field contains over 2,500,000 tons of coal somewhat superior to the best Scotch, and quite equal to the average quality burned in London.

MESSRS. ZILZ AND STOTT.—We are informed that owing to the retirement of Mr. H. Beck, of 22, Bush-lane, Cannon-street, London, E.C., the above-named firm will carry on at the old address the joint agencies for The Badische Anilin und Soda Fabrik, Messrs. G. Seigle and Co., colour manufacturers, of Stuttgart, and Messrs. Schroeder and Stadelwann, of Oberlahustein-on-Rhine, earth and mineral colour manufacturers for paper makers, etc., formerly conducted by Mr. Beck

Society of Chemical Industry. — *Liverpool Section.* — The annual general meeting of this Section will be held at the Chemical Laboratories, University College, on Wednesday, April 27th, 1898, when the election of officers and members of committee for next session will take place. An obituary notice of the life and work of the late Dr. Hurter will be read. Mr. Sigmund Stein will read a paper on "Latest Methods in Sugar Refining."

Society of Chemical Industry: *Manchester Section.* — The last meeting of the session will take place on Friday, May 6th, 1898, at 7 p.m., in the rooms of the Chemical Club, Victoria Hotel, Manchester, when the following papers will be read: "Analytical Notes," by Dr. A. Liebmann. "On the Constitution of Indican, and an Oxidation Product of Indigotin," by L. Marchlewski, Ph.D., and L. G. Radcliffe. Tea and coffee at 6 p.m.

Society of Chemical Industry: *Nottingham Section.* — We regret to learn that the proposed meeting in Leicester is unavoidably postponed. Papers, communications, or subjects for discussion are invited for the next meeting, which is to be held in Nottingham on May 25th.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Tar products generally are flat. Benzols have reached prices which, if foretold a year or two back, would have branded the prophet as a hopeless lunatic. For 90's, 10½d. is full value, while 50/90's are to be had at a 1s. Fortunately, these prices are causing a much better demand, and large sales have been made. Carbolic acids unchanged. Crude naphtha is now quoted at 5½d., and solvent 1s. 4½d. Grease oils easier. Pitch is picking up at 20s. f.o.b. East Coast.

Sulphate of ammonia is firmer, and the demand is said to be improving. There is certainly room for improvement. The hardening of prices is reassuring in any case. Nearest prompt values are:—Beckton, £8. 12s 6d; London outside makes, £8. 15s.; Liverpool, £8. 16s. 3d.; Hull, £8. 15s; and Leith, £8. 15s. to £8. 16s. 3d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business on the whole remains quiet. There is no improvement in values, and caustic soda is about 5s. per ton lower all round. Current spot quotations are as follow:—F.o b. Liverpool, 77%, £8. 5s.; 74%, £8.; 70%, £7. 5s.; 60%, £6. 5s. nett, per ton, 10-ton lots, subject to variations according to market. Ammonia alkali quiet and price unchanged. Bleaching powder for export has a lower tendency; for home trade price is £5. to £5. 2s. 6d., f.o.r. makers' works. In chlorates there is no improvement in price, and the demand is light. Sulphate of copper has a slightly firmer tendency, and is nominally £16. 5s., f.o.b. Liverpool. Recovered sulphur, £4. 10s. nett, f.o.r. makers' works. Nitrate of soda steady at 7s. 6d. per cwt., with a firmer prospect. Brown acetate of lime firm at £5. 10s., c.i.f.; grey, £7. 5s., nett. White sugar of lead advanced to £26. per ton, c i.f. Acetate of soda flat at £11. 15s. per ton. Acetic acid quiet. Yellow prussiate of potash steady for prompt delivery at 6½d. per lb., with lower tendency forward. Cyanide dearer at 1s. 3d. per lb. Arsenic quiet at £18. 10s. to £18. 15s., f.o.r. Garston. Aniline oil and salt dull, and prices are unchanged. Carbolic acid, crystals and liquid, stand at same prices, but there is only moderate inquiry. Sulphocyanides remain at a low point. Glycerine has a firmer tendency.

REPORT ON MANURE MATERIAL.

There continues to be an active market in manure material, and the probable outbreak of hostilities between the United States and Spain is giving an impetus to the purchasing of phosphatic material. A large business has been done both for the United Kingdom and the Continent, and at the close sellers are asking advanced prices. For 77/80% Florida rock, 5¼d. to 5½d. per unit would now have to be paid for the United Kingdom, according to port, and sellers for shipment this year are becoming very scarce. For Algerian phosphate, 58/63 %, the quotation has been advanced to 5¼d., 1899 shipment. There is nothing fresh in the market for bones. Owing to arrivals, bone meal is rather easier, and £4. 5s. per ton would now be accepted. Deliveries of nitrate of soda continue heavy, but the price for fine quality remains 7s. 4½d. per cwt.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 46s. 1½d.; Middlesbro', 39s. 11½d cash; and hematite, 49s. 7½d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £51. 17s. 6d. to £52. 2s. 6d. cash, and £52. 6s. 3d. to £52. 11s. 3d. three months. Tin steady. Straits closed at £64. 15s. to £65. 5s. cash, and £65. 10s. 0d. to £66. three months; Australian, £65. 15s.; English ingots, £67. 10s. to £67. 15s. Lead firm: Spanish, £12. 16s. 3d. English, £12. 17s. 6d.; Silesian spelter, ordinary, £18. 12s. 6d. to £18. 13s. 9d. Nickel, 1s. 2½d. Antimony, £31. 10s. to £32. Quicksilver: First hands, £7. 1s. 3d.; second hands, £7. 0s 6d. *Copper shares* quiet: Cape, $4\frac{3}{16}$ to $4\frac{5}{16}$; Copiapo, $2\frac{3}{16}$ to $2\frac{5}{16}$; Libiola, 2½ to 2¾; Mason and Barry, 3¼ to 4; Rio Tinto, $24\frac{11}{16}$ to $24\frac{13}{16}$; Tharsis, 6¾ to 7.

GLASGOW, Wednesday.—Market firmer, and a fair business. Scotch done at 46s. 1d., and 46s. 1½d. cash; also at 46s. 3½d. and 46s. 4d. month; buyers, 46s. 1½d. cash; sellers, 46s. 2d. Cleveland, done at 39s. 11½d. cash; buyers, 39s. 11½d. cash; sellers, 40s. 0½d. Cumberland hematite done at 49s. 7d. and 49s. 7½d. cash; also at 49s. 10d. month; buyers, 49s. 7½d. cash; sellers, 49s. 8d. Middlesbrough hematite idle.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is steady with more doing, sales including Lagos at £20. 5s., Bonny £19. 2s. 6d., and Congo at £18. Olive is easier, and is moving better. Linseed is very firm at 17s. 3d. to 17s. 9d. cwt. in export casks, for Liverpool makes. Cottonseed, Liverpool refined, strong, with prices in seller's favour, at 15s 9d. to 16s. cwt. Castor oil is steady at 3¼d. for first pressure French, and 3¼d. to $3\frac{5}{16}$d. per lb. for good seconds Calcutta. Tallow is firm with a good business doing. Resin is firm both in price and position. Spirits of turpentine firm and selling fairly well at 25s. per cwt. Petroleum quiet with American at 5¼d. to 6½d., and Russian refined 4⅝d. per gallon.

CAKES.—A firmer tone has been noticeable in all departments, and a very fair amount of business has been concluded. The supplies of American Western linseed being rather small on the spot the quotation was advanced 2s. 6d., and even at the higher range of values a good business was recorded at £6. 5s. to £6 10s., and Liverpool makes have also sold to a very fair extent at £8. to £8. 10s. per ton. A fair demand was experienced for American decorticated cottonseed on the spot, and the recent quotation was very steadily maintained at £5. 7s. 6d. to £5. 17s. 6d., according to quality, whilst for Liverpool makes some holders were decidedly firmer to deal with, the range of values now being from £6 5s to £6. 17s. 6d. per ton, and a fair inquiry was experienced. Liverpool undecorticated makes also had a better market, and though the quotation is only slightly dearer some holders asked as much as 5s. advance, a good consumptive trade having been concluded at £4. to £4. 12s. 6d. per ton. Spot parcels of Egyptian meet with a better inquiry, and are held for 2s. 6d. more money, the quotation being now £3. 18s. 9d. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9.s.; seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue. 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—The market values of both cotton and linseed oils continue to improve, which in some measure (especially as regards linseed oil) is attributable to the very limited supply of seed, as will be recognised from the imports, which for the year have been, as against the same time a year ago:—Linseed, 111,577 qrs., against 177,729 qrs.; rapeseed, 24,539 qrs., against 38,256 qrs.; cottonseed, 86,076 tons, against 72,476 tons; cloverseed, 35,863 cwts, against 23,117 cwts.; oilcake, 6,277 tons, against 3,146 tons; olive oil, 1,699 tuns, against 1,218 tuns; tar, 675 barrels, against 130 barrels. Linseed oil firm: 14s. 10½d. per cwt., spot; forward May-December, 15s. 1½d., naked; boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil firmer: 13s. 6d. per cwt, naked, spot; May-August, 13s. 9d. Filtered refined, £1. to £1. 5s. per ton extra. Ordinary casks, £1. and barrels £1. 10s per ton extra. Castor oil extracted here: First pressure, 29s. 6d. per cwt., in barrels; in cases, $3\frac{5}{16}$d. per lb.; second pressure, in barrels, 28s. per cwt.; in cases, 3⅛d. per lb. Rosin is quoted for B.C. grade, 4s. 9d. per cwt., ex quay. Olive oil continues to move off with but little alteration in rates. Olive oil soap firm, at £17. per ton. Turpentine, 25s. per cwt. Cod oil dearer, £16. 10s. to £19 per ton. Oleines firm and unchanged. Wool grease, £7. 10s. to £9. per ton.

CAKES.—In sympathy with seed, cakes continue to improve in value. Linseed cakes, 95% pure, £8. 2s. 6d. to £8. 5s. per ton. Oilcakes (linseed), £6. 17s. 6d. to £7. Russians, £7. 2s. 6d. to £7. 7s. 6d. per ton. Cotton cakes firm: Best makes, £4. 5s. to £4. 7s. 6d.; seconds, £4. 2s. 6d. to £4. 5s. Decorticated cakes, £6. per ton; pure meal, £5. 15s. Rape cakes, Black Sea, £4. 5s. per ton. Round feed and oilcakes, £5. 15s. per ton.

PAINTS.—Some firms here are exceedingly busy, and the trade altogether is good for painters' goods and sundries. Leads continue firm. Paints unchanged. Disinfecting powder: 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. Sanitary fluid, 1s. per gallon. Black varnish, £5. per ton, barrels free.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

The market is to a certain measure disquieted and distracted, because of the war clouds looming over Atlantic waters, and the coal disturbance in Wales, a very palpable reflex of which is in very plain evidence here already. Meanwhile, there are no important changes in the price of chemicals. Sulphate of ammonia continues to lose ground, though very slowly, and prompt Leith quotation to-day is between £8. 15s. and £8. 17s. 6d., the likelihood being that buyers could get in at the former, with at least one or two of the sellers. Nitrate of soda also has dropped in price. Caustic soda is weaker. Saltcake is rather firmer. In the heavier chemicals there is an increasing movement in parcels for shipment at about the old prices. Mineral oils and paraffins show hardly any change, holding still to the idle side, all except lubricants, which are in fair request.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 17s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 5s., 60/62° £6. 5s., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 19s.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 3d. to 7s. 6d.; sulphate of ammonia, £8. 16s. 3d. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 5s., less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¼d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¼d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 13,000 bags beet unrefined.

TYNE CHEMICAL REPORT.

Tuesday.

The chemical market still continues quiet, the demand for export being no doubt adversely affected by the threatened troubles abroad. Prices are practically unaltered. Soda crystals, £2. 12s. 6d. per ton gross weight, locally. Caustic, 76/77% £8. 10s. per ton; 70%, £7. 5s. and £7. 10s. per ton. Sulphur scarce, at £4. 15. and £5. per ton.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4½d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 6d. per ton, f.o.b. Tees.

COALS.—The market is still excited and the production of steam coals in Northumberland and Durham is now at the fullest extent, the demand being in excess of the output. For best Northumbrian steam, the quotation on 'Change to-day is about 19s. to 20s. per ton; bunker coals, 9s. 6d. to 10s. per ton; small steam, 6s. 6d. to 7s. per ton. Other qualities have not been so much affected, and prices are:—Manufacturing coal, 5s. to 5s. 6d.; gas coals, 8s. 6d. to 9s. per ton; household coals, 10s. to 11s. per ton; coke, 18s. 6d. to 21s. per ton.

New Companies.

Anglo-Belgian Sugar Trust Limited.—Capital £240,000. in £1. shares (60,000 7% cum. pref.). This company has been formed to acquire certain patents connected with the manufacture of sugar, to acquire land and premises at Hougerade, Belgium, to adopt an agreement with C. F. Smith, and to manufacture, sell, and deal in sugar, molasses, treacle, syrups, glucose, sweetmeats, etc. The subscribers to the memorandum of association are:—W. Penman, 14, Upper Thames-street, E.C., paper agent; J. R. Knowles, 28, Victoria-street, S.W., engineer; E. C. Tonkin, 116, Royal road, Kennington Park, S.E., clerk; F. F. Hills, The Elms, Campbell-road, Croydon, surgeon; W. Wigg, 1, Clement's Inn, Strand, solicitor; A. E. Kenny, 37, Hetley-road, Shepherd's Bush, W., clerk; E. F. Jeffcoate, 71, High-street, Belgravia, S.W., secretary.

Quicksilver Exploration Syndicate, Ltd.—Capital £7,000. in £1. shares. This company has been formed to acquire an option to purchase the St. John's Quicksilver Mines, situate at Solano County, California, U.S.A., and to adopt an agreement with J. Neale. The subscribers to the memorandum of association are:—W. Mutton, 221, Wightman-road, Hornsey, journalist; E. Melson, Portland House, Basinghall-street, E.C., agent; W. S. Shepherd, 7, Sistova-road, Balham, agent; W. Bartlett, 52, Osborne Terrace, Clapham, journalist; A. C. Branch, 23, Exmouth-street, Stepney, cashier; W. E. Laing, 90, Colvestone Crescent, W. Hackney, journalist; R. Burden, 79, St. George's Avenue, Tufnell Park, N., gent.

Fish Oil and Guano Co., Ltd.—Capital £250,000. in £1. shares. This company has been formed to acquire and take over as a going concern the undertaking and all or any of the assets and liabilities of the Fish Oil and Guano Syndicate, Ltd. The subscribers to the memorandum of association are:—Lurgan, 21, Lowndes Square, London, peer; W. Chambré, Commercial Buildings, Dublin, merchant; E. C. Hardman, 14, Molesworth-street, Dublin, land agent; E. C. Downsend, Mount Coote, Killmallock, land agent; D. B. O. Hardman, 14, Molesworth-street, Dublin, solicitor; J. Chambré, Commercial Buildings, Dublin, merchant; W. M. Butler, 36, College Green, Dublin, accountant. Registered office, 1, Foster Place, Dublin.

Inchicore Paper Co., Ltd.—Capital £2,000. in 1,000 pref. and 995 ordinary and 5 founders' shares of £1. each. This company has been formed to purchase the interest of J. P. Barbour in the mills, known as the Killeen Paper Mills, situated at Killeen, co Dublin, and to carry on the business of paper manufacturers, in all its branches. The number of directors shall not be less than 3 nor more than 5; the first are J. P. Barbour, A. Ross, and H. C. S. Ross. Registered office, Killeen Paper Mills, Inchicore, co. Dublin.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending April 9th.

Acetic Acid—

Holland,	150 pks.	R. W. Greeff & Co.
,,	60	J. Owen
,,	5	Phillipps & Graves
Germany,	10	Beresford & Co.
Holland,	125	A. & M. Zimmermann

Acetone—

Austria,	20 pks.	Thames S. T. & L. Co., Ld.

Alumina—

Germany,	£80	R. W. Greeff & Co.

Antimony Ore—

Germany,	10 c.	Butler's Wf., Ld.

Asbestos—

Italy,	£60	W. Newbould
,,	130	British Asbestos Co.
U. States,	678	Walker, Munsie & Co.

Asphaltum—

Germany	10 pks.	L. & I. D. Jt. Co.

Barytes—

Germany,	44 pks.	W. Harrison & Co.
,,	250	T. & W. Farmilce, Ld.
Holland,	12	J. Owen
,,	224	W. Harrison & Co.

Benzoic Acid—

Germany,	4 pks.	Butler's Wf., Ld.

Bleaching Powder—

Germany,	£48	J. M. Steel & Co.

Bone Meal—

Holland,	125 t.	Hollingburst & Co.
E. Indies,	100	Darling Brs.
,,	200	Fox, Roy & Co.

Boracic Acid—

Italy,	2 pks.	Baiss Brs. & Co.

Bromide of Iron—

Germany,	10 pks.	A. & M. Zimmermann

Camphor—

Germany,	2 pks.	L. & I. D. Jt. Co.
,,	1	J. W. Drysdale & Co.

Caoutchouc—

France,	2 c.	H. Ewald & Co.
Straits,	100	Prop. Bell Wf.
,,	50	Gilman Brs. & Co.

France, 46 H. Johnson & Sons
Argentine, 40 Prop. Bull Wf.
Germany, 42 "
Zanzibar, 44 L. & I. D. Jt. Co.
U. States, 35 W. Pope & Co.
Madagascar 8 Kleinwort, Sons & Co.
Germany, 11 Butler's Wf., Ld.

Carbolic Acid—
Germany, 25 pks. J. G. Back
" 25 Blagden, Waugh & Co.

Castor Oil—
Germany, 1 cs. T. Christy & Co.
Italy, 10 A. & M. Zimmermann
France, 5 cks. C. S. Lovell
Italy, 20 cs. Nicholson's Wvs., Ld.
France, 10 brls. F. Boehm
" 12 J. Greig
Italy, 3 cs. Potter & Clark
" 10 Hogkinsons, Clarke & Co.

Caustic Potash—
Germany, 80 pks. D. T. Domeier & Co. Ld.
France, £20 Petri Brs.

Chemicals (*otherwise undescribed*)
France, £88 Mory & Co.
Belgium, 6 O. Scholzig
Germany, 45 L. & I. D. Jt. Co.
" 26 Phillipps & Graves
" 20 Butler's Wf., Ld.
" 8 T. H. Lee
" 11 Burgoyne & Co.
Belgium, 107 T. Palmer
Holland, 62 T. H. Lee
" 30 H. Lorenz
" 25 Elkan & Co.
France, 16 J. Harrison
Sweden, 10 M. D. Co.
Germany, 1,013 A. & M. Zimmermann
Belgium, 50 T. H. Lee
" 9 H. & G. Dutfield
" 20 E. J. Catlin
France, 160 B. & F. Wf Co.
Denmark, 39 Tegner, Price & Co.
Holland, 10 J. Owen

Copper Sulphate—
Germany, £45 Charles & Fox
U. States, 80 pks. Brandies, Goldschmidt & Co

Cream of Tartar—
France, 1 pk. J. L. Lyon & Co.
Italy, 10 Fellows, Morton & Co.
Portugal, 5 B. & F. Wf. Co.
Spain, 5 "
" 5 W. C. Bacon & Co.

Dyestuffs—
Argols
Italy, 129 pks. Thames S. T. & L. Co.
Cochineal
Canaries, 5 pks. W. M. Smith & Sons
Divi Divi
E. Indies, 100 pks. Beresford & Co.
Extracts
France, 500 pks. Boutcher, Mortimore & Co.
Fustic
B. W. I., 11 t. G. T. Benton & Son
Gambier
Straits, 187 pks. Beresford & Co.
" 338 Brinkmann & Co.
" 928 Hoare, Wilson & Co.
Indigo
Holland, 2 chts. Wynter Roberts & Co.
" 6 J. Barber & Co.
Madras, 25 Croysdale & Co.
" 4 R. Von Glehn & Sons
" 41 L. & I. D. Jt. Co.
" 16 P. Macfadyen & Co.
" 2 H. W. Jewesbury & Co.
Bengal, 26 W. Roberts & Co.
Madras, 12 A. Frey & Co.
" 31 A. Young & Co.
Bengal, 2 A. B. Curtis & Co.
" 35 L. & I. D. Jt. Co.
" 14 E. C. Cook
U. States, 78 cs. Baring Brs. & Co.
Logwood
B. W. I., 11 t. G. T. Benton & Son
" 339 Benekendorff, Berger & Co.
Myrabolams
E. Indies, 683 pks. Cayzer, Irvine & Co.
Shumac
Italy, 75 pks. Bailey & Leetham, Ld.
" 410 J. E. Scott
Tanners' Bark
Germany, 2 t. M. Rly. Co.
Belgium, 16 Leach & Co.

Valonia
A. Turkey, 77 t. Anning & Cobb

Farina—
Holland, 200 pks. Ohlenschlager Brs.
" 50 J. Knill & Co.

Glucose—
U. States, 1,100 pks 1,100 c. Fellows, Morton, & Co.
France, 400 400 W. E. Cole
U. States, 250 250 Lunham & Moore
" 750 750 E. Thompson & Co.
" 500 500 Humphery & Co.
France, 200 200 Barrett, Tognot & Co.
U. States, 300 1,900 L. & T. Ltge. Co.
" 250 250 Trier, Meyer & Co.
" 2,243 2,243 L. & I. D. Jt. Co
" 1,350 3,100 R. G. Hall & Co.

Glue—
Germany, £62 H. Lambert
Austria, 250 L. & N. W. Rly. Co.
Germany, 27 Phillipps & Graves
" 30 M. D. Co.
France, 278 Prop. Hay's Wf.
Belgium, 988 J. Barber & Co.
France, 160 Hernu, Peron & Co.
" 60 B. & F. Wf. Co
Germany, 600 Deering & Robottom
Holland, 170 J. Barber & Co.
" 105 T J. & T. Powell

Infusorial Earth—
Germany, £250 A Haacke & Co.

Lamp Black—
U. States, 600 pks. L. & I. D. Jt. Co.

Lanoline—
Germany, £120 Butler's Wf., Ld.

Lead Acetate—
Germany, £177 F. Boehm

Lead Nitrate—
Germany, £25 J. Barber & Co.

Litharge—
Holland, 22 pks Spies Brs. & Co.
Germany, 18 H. Wallace & Co.

Lithopone—
Holland, 40 pks. A. Zumbeck & Co.

Manure—
Belgium, 10 t. T. H. Lee
" 3 T. Ronaldson & Co.

Methyl Alcohol—
Austria, 18 dms. Stein Brs.
France, 20 E J. Catlin
Germany, 10 pks. T. Jones & Co.

Molasses—
B. Guiana, 162 pkr. 360 c. C. M. & C. Woodhouse
U. States, 199 93 G. Barker
" 200 brls. Wilson & 1,216 Furness L. Line
" 50 212 J. Forsey
Holland, 8 100 J. Barber & Co.
U. States, 725 4,100 Ohlenschlager Brs.
B. Guiana, 200 1,300 Perkins & Homer

Ochre—
Spain, 51 pks. J. L. Lyon & Co.
U. States, 2 Pickford & Co.
Holland, 13 Phillipps & Graves

Phosphate of Lime—
Belgium, 250 t. Anglo-Contl. Guano Works
U. States, 2,499 West & Penrose

Pitch—
N. Russia, 9 brls. Abbey, Abbey, & Co.
" 10 cks. M. Dk. Co.
France, 140 brls. Poth, Hille, & Co.
Belgium, 5 H. Hunt

Plumbago—
Ceylon, 77 brls. Marshall & French
Germany, 10 cks. Butler's Wf., Ld.
" 18 cs. "
" 52 B. Gallaway
" 115 E. & T. Pink
U. States, 42 pks. Lunham & Moore
Ceylon 264 brls. J. Thredder, Son, & Co.
" 233 L. & I. D. Jt. Co.

Potassium Carbonate—
Germany, 300 c. Petri Brs.
" 11 R. W. Greeff & Co.
" 200 Charles & Fox
France, 45 J. A. Reid
" 200 Petri Brs.
Germany, £60 H. Lambert

Potassium Oxymuriate—
Sweden, £41 G. Boor & Co.

Potassium Permanganate—
Germany, £70 Butler's Wf., Ld.

Pumice Stone—
Italy, 10 t. J. E. Power
" 1 L. & I. D. Jt. Co.

Pyrites—
Spain, 650 t. Naylor, Benzon, & Co.
Pomaron, 380 South Metrop. Gas Co.

Quicksilver—
Spain, 5,000 flsks. N. M. Rothschild & Sons
Italy, 100 H Bath & Son

Rosin Oil—
U. S. Pac., 46 pks. Miller & Vincent

Salicylic Acid—
Germany, 4 pks. Butler's Wf., Ld.

Salt—
Germany, £53 Deering & Robottom

Saltpetre—
Bengal, 50 bgs. Phillipps & Graves
Germany, 50 Odams Manure & Chemical Co.
———, 140 pks. P. Hecker & Co.
Germany, 50 cks. J. Hall & Son
Holland, 54 S. E. Rly Co.
" 5 J. Owen
E. Indies, 142 bgs. Jennings & Co.
" 4,995 Lucas & Spencer's Wf.

Soda—
Holland, £40 R. W. Greeff & Co.

Sodium Acetate—
France, 45 pks. J. Harrison

Sodium Bichromate—
Germany, 51 pks. F. V. Pryor

Starch—
U. States, 3,200 pks. Bertel Food Co.
" 100 W. Grose & Co.
Belgium, 90 Prprs. Dowgate Dk.
Germany, 1,084 Horne & Co.
Holland, 981 Little & Johnston
Belgium, 410 F. Claydon & Co.
" 454 T. H. Lee
Holland, 200 Hernu, Peron, & Co.
Belgium, 40 Sawer, Sons, & Co.
" 40 Taylor Brs.
" 200 C. Tennant, Sons, & Co.
" 200 Becker & Wagner
" 40 Leach & Co.
U. States, 250 R. Bennett & Co.
France, 200 Prprs. Dowgate Dk.

Stearine—
Holland, 12 cks. Robinson, Roberts, & Co.
Belgium, 188 bgs. H. Hill & Sons

Sulphur—
Italy, 10 t. H. Jordison
Spain, 100 Union L. Co., Ld.

Superphosphates—
Belgium, 5 t. J. Gibbs & Co., Ld.

Talc—
France, £80 Blackwell & Co.
" 15 W. D. Cork

Tar—
Russia, 46 brls. Linck, Moeller, & Co.

Tartaric Acid—
Holland, 30 pks. Kirkpatrick, Barr, & Co.

Ultramarine—
Holland, 5 pks. Haeffner, Hilpert, & Co.

Varnish—
U. States, 9 pks. Williams, Torrey, & Co.
" 2 L. & I. D. Jt. Co.
Germany, 2 "
Belgium, 1 Leach & Co.
U. States, 13 Pinchin, Johnson, & Co.

White Lead—
Holland, 30 pks. N. J. Fenner & Co.
" 60 Burrell & Co.
Belgium, 30 J. L. Lyon & Co.
Germany, 10 H. Lambert
" 84 Taylor Brs.
Belgium, 6 G. E. Banes
" 6 D. C. Thomas & Sons
N.S.W., 111 Colthurt & Harding
Germany, 75 W. Balchin, Ld.
" 75 Steinhoff, Sons, & Co.
Belgium, 35 T. & W. Farmiloe, Ld.
France, 17 J. Watt & Son

Wood Pulp—
Sweden, 300 pks. Henderson, Co. & [illegible]
Belgium, 2,952 P. Heyden[illegible]
Holland, 286 J. D[illegible]
" 23 H. Johnson & S[illegible]
Sweden, 520 W. E. Boot & [illegible]
Norway, 20 M. Dk.
Austria, 12 "

Zinc Oxide—
Holland, 10 pks. J. O[illegible]
" 4 M. Ashby, [illegible]
Germany, 50 D. Storer & S[illegible]
" 500 Soundy & S[illegible]
Holland, 75 Burrell & [illegible]
" 50 J. Ma[illegible]
" 100 Spies Brs. & [illegible]

Zinc Sulphate—
Germany, £60 Burgoyne & [illegible]

LIVERPOOL.

Week ending April 7th.

Acetic Acid—
Rotterdam, 10 bls.

Albumen—
Hamburg, 1 cs.

Antimony—
Valparaiso, 114 bgs. Gregory Law & [illegible]
Hamburg, 3 cs.

Barytes—
Antwerp, 94 cks.
Rotterdam, 79

Bone Ash—
Campana, 621 bgs.

Bone Meal—
Karachi, 5,379 bgs.

Boracic Acid—
Leghorn, 20 cks.

Borax—
Rotterdam, 22 cs.

Castor Oil—
Natal, 46 bgs.
Calcutta, 691 cs. Ralli [illegible]
" 765

Caustic Soda—
Rotterdam, 50 dms.

Chemicals (*otherwise undescribed*)
New York, 25 brls.

Colours—
Rotterdam, 70 cks.

Cottonseed Oil—
Newport News, 310 brls.

Cream of Tartar—
Barcelona, 20 hf.-cks.
Bordeaux, 36 cks.

Dyestuffs—
Algarrobilla
Valparaiso, 1,461 bgs.
Cochineal
Teneriffe, 50 bgs. Brown, B[illegible] & C[illegible]
Divi Divi
Curacao, 395 bgs. A. P. Fletch[illegible] & C[illegible]
Extracts
Hamburg, 20 cs.
Fustic
Kingston, 1,095 pcs. E. A. de F[illegible] & [illegible]
Vera Cruz, 80 t. Rosing [illegible]
Tampico, 21,977 Campania Mercan[illegible]
6,161 sticks
Gambier
Singapore, 242 bls.
Indigo
Calcutta, 351 chts.
Myrabolams
Bombay, 3,160 bgs.
Saffron
Seville, 1 cs.
Shumac
Palermo, 100 bgs.

Farina—
Stettin, 20 bgs. L. S. D[illegible] & [illegible]

Glucose—
Newport News, 50 brls. Rogers Hollo[illegible]
" 200
New York, 700 T. M. D[illegible]
Baltimore, 100
Philadelphia, 50 Rogers Hollo[illegible]

Glue—
Boston, 57 crts. T. Robin[illegible] & [illegible]
Antwerp, 20 bls.
Rotterdam, 102 bgs.

Lactic Acid—
Boston, 10 brls. J. Taylor & [illegible]

Limestone—
Antwerp, 1 cs. J. T. Fletcher & Co.
" 1

Lithopone—
Rotterdam, 20 cks.

Manganese Ore—
Poti, 2,175 t. Darwen & Mostyn Iron Co.
" 2,780
Bordeaux, 295 R. J. Francis & Co.

Ochre—
Rouen, 72 cks. R. J. Francis & Co.
Alicante, 100 bgs.

Paint—
Baltimore, 40 cs. J. Nickels & Son
Calcutta, 28 kgs.
Hamburg, 20 pks.

Paraffin Scale—
New York, 690 brls. Anglo-Am. Oil Co., Ld.
Baltimore, 400

Phosphate Rock—
Pt. Royal, 1,500 t.
" S.C., 2,600

Pitch—
Stettin, 40 bgs. Telegraph Mfg. Co.

Saltpetre—
Karachi, 243 bgs.
Calcutta, 657 Ralli Brs.

Silver Chloride—
Antwerp, 1 cs. J. T. Fletcher & Co.

Silver Sulphide—
Vera Cruz, 10 cs. Elliot's Metal Co.

Soap—
Baltimore, 3 brls.
Boston, 20 cs. J. Thompson
" 8 W. Foggitt
" 5 Evans, Sons & Co.
Philadelphia, 94 1,000 bxs.

Soapstone—
Bordeaux, 80 bgs. Geo. G. Blackwell, Sons & Co.

Sodium Nitrate—
Antofagasta, 9,297 bgs.
Iquique, 20,295 G. C. Dobell & Co
Junin,

Starch—
Newport News, 150 bgs.
Hamburg, 1 cs. 10 cks.
Rotterdam, 110 Browne, Geveke & Co.
Philadelphia, 400 sks National Starch Mfg. Co.

Tallow—
Las Palmas, 363 pps.
Campana, 551 cks.
New York, 383 hds. 146 tcs.
Boston, 600 343
Shanghai, 11 cs.
Philadelphia, 62 tcs. Armour & Co.

Tar Waste—
Rotterdam, 7 cks.

Tartaric Acid—
Rotterdam 5 cks.

Treacle—
Bordeaux, 1 cs.
Philadelphia, 50 brls.

Verdigris—
Bordeaux, 1 ck.

White Lead—
Rotterdam, 30 pks.

Wood Pulp—
Arendal, 2,400 bls. H. Tyrer & Co.
Drammen, 2,350 "

Zinc Ashes—
New York, 35 brls.
Bordeaux, 144 pks. R. J. Francis & Co.
Philadelphia, 57 brls.

Zinc Oxide—
New York, 100 brls.
Antwerp, 40

MANCHESTER.

Week ending April 9th.

Alizarine—
Rotterdam, 29 cks.

Ammonium Chloride—
Rotterdam, 4 cks.

Aniline Salts—
Rotterdam, 4 cks.

Annatto—
Bordeaux, 2 cs. J. & P. Hutchison

Arsenic—
Antwerp, 2 cks.

Barium Chloride—
Rotterdam, 2 cks.
Hamburg, 24

Barytes—
Antwerp 50 bgs.

Boracic Acid—
Hamburg, 4 cks.

Chemicals *(otherwise undescribed)*
Rotterdam, 5 kgs.

Colours—
Antwerp, 15 pks. 16 cs.
Rotterdam, { 28 cks. 13 / 17 bxs. 64 brls.

Cream of Tartar—
Rotterdam, 20 kgs.

Extracts—
New York, 10 brls.

Farina—
Rotterdam, 10 brls. 500 bgs.
Hamburg, 40

Glue—
Hamburg, 20 bskts.
Antwerp, 47 pks.
Rotterdam, 200 bgs. 30 cs.

Lead Acetate—
Hamburg, 1 ck.

Limestone—
Antwerp, 1 crte. 6 cs.

Litharge—
Rotterdam, 15 cks.

Logwood—
Cape Hayti, 453 t.

Magnesium—
Rotterdam, 5 cs.

Mineral White—
Bordeaux, 220 bgs. G. G. Blackwell, Sons, & Co.
" 80 J. & P. Hutchison

Paraffin Scale—
New York, 945 brls.

Pitch—
Hamburg, 12 cks.

Potash—
Antwerp, 3 cks.
Rotterdam, 15
Hamburg, 35 dms.

Pumice Stone—
Messina, 40 bgs.

Shumac—
Rotterdam, 8 cs.
Palermo, 200 bgs. 300 bls.

Soap—
Leghorn, 34 cs.

Soda Ash—
New York, 9 bdls.

Sodium Nitrate—
Rotterdam, 10 cks.

Starch—
New York, 1,400 bgs.
Rotterdam, 30
Antwerp, 598 cs.

Stearine—
Antwerp, 149 bgs.

Tartaric Acid—
Rotterdam, 44 cks.

Waste Salt—
Hamburg, qty.

Wood Pulp—
Hamburg, 404 bls.

Zinc Oxide—
Hamburg, 15 cks.
Antwerp, 126

Zinc White—
Rotterdam, 10 cks.

HULL.

Week ending April 9th.

Arsenic—
Antwerp, 6 cks. Cross & Young

Asbestos—
Genoa, 4 cs.

Barytes—
Amsterdam, 22 cks. Hutchinson & Son
Antwerp, 114 Bailey & Leetham, Ld.
Bremen, 26 Veltmann & Co.
" 21 T. F. Chambers & Co.
37 G. Holmes & Co.

Carbonic Acid—
Bremen, 10 cylrs. Hull & G. Mineral Water Co.

Castor Oil—
Genoa, 10 cs.
Leghorn, 20 Wilson, Sons, & Co., Ld.
Marseilles, 32 pks.

Chemicals *(otherwise undescribed)*
Antwerp, 4 cks. Wilson, Sons, & Co., Ld.
10 pks.
Hamburg, 55 kgs. "
New York, 9 pks. "

Cod Oil—
Aalesund, 170 pks. Wilson, Sons, & Co., Ld.
Bergen, 88 brls. "
Christiansund, 65 "

Colours—
Leghorn, 6 cks.
Ghent, 36 Wilson, Sons, & Co., Ld.
Rotterdam, 90 W. & C. L.
61 pks. 5 cs. Ringrose
Bremen, 2 Veltmann & Co.
Antwerp, 14 Wilson, Sons, & Co., Ld.
Rotterdam, 17 Hutchinson & Son
1 brl.

Cottonseed Oil—
New York, 475 brls. Wilson, Sons, & Co., Ld.

Cryolite—
Copenhagen, 1 ck. Wilson, Sons, & Co., Ld.

Dextrine—
Stettin, 50 bgs. Wilson, Sons, & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 10 cks. Hutchinson & Son

Argols
Bordeaux, 40 bgs. Rawson & Robinson

Myrabolams
Bombay, 7,548 bgs.

Valonia
Smyrna, { 707 bgs. / 272 t.

Farina—
Harlingen, 19 bgs. W. & C. L. Ringrose
" 50 bls. Hutchinson & Son

Glucose—
New York, 50 brls. Wilson, Sons, & Co., Ld.
" 100

Glue—
Stettin, 70 bkts. Wilson, Sons, & Co., Ld.
Rouen, 10 bgs. Rawson & Robinson
22 cks.

Kaolin—
Amsterdam, 20 cks. Hutchinson & Son

Lead Acetate—
Hamburg, 1 ck.

Limestone—
Antwerp, 1 cs. Wilson, Sons, & Co., Ld.

Manure—
Marseilles, 2 bgs. Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 112 cks. Rawson & Robinson

Phosphate—
Ghent, 260 t. Wilson, Sons, & Co., Ld.
Dunkirk, 1,000 bgs. "

Phosphate Rock—
Bona, 1,635 t.

Plumbago—
Hamburg, 12 cks. Wilson, Sons, & Co., Ld.
Leghorn, 380 bgs.
New York, 1 cs. "

Potash—
Dunkirk, 38 cks. Wilson, Sons, & Co., Ld.

Pumice Stone—
Genoa, 100 bgs. Wilson, Sons, & Co., Ld.
Leghorn, 115 pks. "

Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.

Soap—
Marseilles, 16 cs. Wilson, Sons, & Co., Ld.
" 1
Malaga, 40 bxs. "
New York, 500

Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Ghent, 134 Wilson, Sons, & Co., Ld.
Antwerp, 100 "

Sodium Nitrate—
Tocopilla, 20,860 bgs. Nichs, Waterhouse, & Son

Starch—
Ghent, 184 cs. Wilson, Sons, & Co., Ld.
Bremen, 85 t Veltmann & Co.
Antwerp, 20 Wilson, Sons, & Co., Ld.
Rotterdam, 283 pks. Hutchinson & Son
Dunkirk, 50 bgs. Wilson, Sons, & Co., Ld.

Stearine—
Antwerp, 3 cks. Wilson, Sons, & Co., Ld.

Tallow—
Boston, 393 tcs. Wilson, Sons, & Co., Ld.
Dunkirk, 332 cks. "

Tar—
Konigsberg, 20 brls. Wilson, Sons, & Co., Ld.
Marseilles, 50 cks. "

Tartar—
Bordeaux, 10 cks. Rawson & Robinson

Treacle—
Boston, 735 brls. Wilson, Sons, & Co., Ld.
New York, 866 "

Ultramarine—
Rotterdam, 4 cks. W. & C. L.
1 cs. Ringrose

Waste Salt—
Hamburg, 550 bgs. Wilson, Sons, & Co., Ld.
50 t.
1,000 bgs.
" 50 t.

White Lead—
Amsterdam, 19 cks. Hutchinson & Son
Rotterdam, 19 "

Wood Pulp—
Hamburg, 1 ble. Bailey & Leetham, Ld.
Drontheim, 420 Wilson, Sons, & Co., Ld.
Bergen, 61 pks. "

Zinc Oxide—
Antwerp, 10 cks. Morley & Co.

GLASGOW.

Week ending April 14th.

Acetate of Lime—
Philadelphia, 591 bgs.

Alumina Sulphate—
Ghent, 100 bgs.
Rotterdam 84 J. Rankine & Son

Arachide Oil—
Rotterdam, 4 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 350 bgs.

Barytes—
Rotterdam, 23 cks. J. Rankine & Son
13 pks.

Chemicals *(otherwise undescribed)*
Rotterdam 4 cs. J. Rankine & Son

Colours—
Rotterdam, 53 pks. J. Rankine & Son
Antwerp, 4 cks.

Cottonseed Oil—
New York, 50 brls.

Cream of Tartar—
Bordeaux, 12 cks.

Dyestuffs—
Alizarine
Rotterdam 2 cks. J. Rankine & Son

Aniline
Amsterdam, 1 cs. J. Rankine & Son
Rotterdam, 3 4 cks. "
Hamburg, 2 &

Aniline Colours
Hamburg, 3 cs.
Aniline Salts
Rotterdam, 9 cks. J. Rankine & Son
Argols
Bordeaux, 23 bgs.
Logwood
Guna De Terminos, 230 t. Calder, Henderson & Livingstone
Farina—
Delfszyhl, 350 bgs. J. Rankine & Son
Hamburg, 85
Glucose—
New York, 398 brls.
Boston, 100
Philadelphia, 400
Glue—
Rotterdam, 60 bgs. J. Rankine & Son
Hamburg, 69
Lactic Acid—
Boston, 10 brls.
Paint—
New York, 164 kgs.
Paraffin Scale—
Philadelphia, 275 bls.
Phosphate of Lime and Rock—
Antwerp, 1,620 bks.
Potash—
Rotterdam, 64 cks. J. Rankine & Son
Pyrites—
Huelva, 2,031 t. Tharsis Co.
Rosin—
Brunswick, Ga., 3,899 brls.
Soap—
Newport News, 67 brls.
Sodium Acetate—
Rouen, 10 cks.
Sodium Nitrate—
Tocopilla, 8,167 bgs. Thomson, Aikman & Co.
Starch—
Antwerp, 10 bgs. 160 cs.
Newport News, 500
Tallow—
New York, 50 tcs. 50 hds.
Treacle—
Philadelphia, 500 brls. Waddell & Bryson
" 50
Varnish—
New York, 189 brls.
Antwerp, 2 cs. 1 ck.
Waste Salt—
Hamburg, 125 cks. 400 bgs.
White Lead—
Rotterdam, 39 cks. J. Rankine & Son
Wood Pulp—
Christiania, 612 bls.
Hamburg, 30
Rotterdam, 20 pks. J. Rankine & Son
Zinc Oxide—
New York, 150 brls.
Hamburg, 50 cks.
Zinc White—
Rotterdam, 10 cks. 75 pks. J. Rankine & Son

TYNE.

Week ending April 9th.

Alum Earth—
Hamburg, 102 cks. Tyne S. S. Co.
Barytes—
Antwerp, 63 brls. 200 bgs. Tyne S. S. Co.
Rotterdam, 100 "
Colours—
Antwerp, 7 brls. Tyne S. S. Co.
Glue—
Hamburg, 20 bgs. Tyne S. S. Co.
Limestone—
Antwerp, 23 crts. Tyne S. S. Co.
Quicksilver—
Copenhagen, 100 cyldrs.
Soap—
Rotterdam, 3 cs. Tyne S. S. Co.
Starch—
Rotterdam, 50 cs. Tyne S. S. Co.
Stearine—
Antwerp, 4 bgs. Tyne S. S. Co.
Wood Pulp—
Gothenburg, 20 t.
Zinc Ashes—
Antwerp, 1 ck. Tyne S. S. Co.
Zinc Oxide—
Antwerp, 20 brls. Tyne S. S. Co.
Rotterdam, 20 cks. "

GOOLE.

Week ending April 6th.

Acetic Acid—
Rotterdam, 10 cks.
Antwerp, 80 crbys.
Alizarine—
Rotterdam, 48 brls. 1 cs.
Alkali—
Calais, 4 cks.
Alum—
Rotterdam, 21 bgs.
Antimony—
Boulogne, 1 ck.
Benzine—
Calais, 1 dm.
Colours—
Hamburg, 19 cs.
Disinfectants—
Rotterdam, 38 cks.
Dyestuffs *(otherwise undescribed)*
Boulogne, 156 cks. 5 cs.
Rotterdam, 212 86
Glue—
Delfszyhl, 166 bgs.
Boulogne, 1 ck.
Logwood—
Hamburg, 8 t.
Belize, 355
Hayti, 570
Manure—
Boulogne, 13 bgs.
Potash—
Rotterdam, 100 cks.
Antwerp, 1
Calais, 16 dms.
Pyrites—
Seville, 830 t.
Bosmo, 900
Saltpetre—
Rotterdam, 100 bgs.
Soap—
Rotterdam, 7 cs.
Soda—
Rotterdam, 20 cks.
Sodium Silicate—
Rotterdam, 2 cks.
Starch—
Ghent, 102 cs.
Varnish—
Boulogne, 1 ck.
Waste Salt—
Hamburg, 140 t.

GRIMSBY.

Week ending April 9th.

Barytes—
Rotterdam, { 1 ck. 100 bgs.
Caoutchouc—
Antwerp, 15 cs.
Hamburg, 4 pks.
Chemicals *(otherwise undescribed)*
Rotterdam, 2 crbys.
Colours—
Antwerp, 25 cks. 17 pks.
Hamburg, 16 5
Rotterdam, 3 1 cs.
Farina—
Hamburg, 300 bgs.
Glue—
Hamburg, 6 bgs.
Starch—
Antwerp, 200 cs.
Varnish—
Hamburg, 1 ck.
Waste Salt—
Hamburg, 1,000 bgs
Wood Pulp—
Helsingborg, 159 bls.
Zinc Ashes—
Antwerp, 12 cks.
Zinc Oxide—
Antwerp, 20 cks.

EXPORTS OF CHEMICAL PRODUCTS
OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 13th.

Acids—
Cape Town, 21 pks. £38
Ammonia (Liquid)—
Cologne, 25 dms. £116
Ammonium Carbonate—
Melbourne, 7 cs. £11
Ammonium Chloride—
Samsoun, 12 c. £19
Alexandretta, 11 17
Ammonium Sulphate—
Ostend, 170 t. £1,740
Amsterdam, 50 450
Martinique, 50 14 c. 478
Ghent, 75 650
Dunkirk, 10 90
Antwerp, 50 450
Anhydrous Ammonia—
Cape Town, 6 cyldrs. £53
Arsenic—
Wellington, 1 t. £22
Borax—
Dusseldorf, 7 t. 10 c. £125
Carbolic Acid—
Shanghai, 210 dms. £22
Colombo, 9 pks. 5
Melbourne, 2 cs. 11
Caustic Soda—
Delagoa Bay, 11 c. £10
Chemicals *(otherwise undescribed)*
Pt. Elizabeth, 8 pks. £12
Antwerp, 10 cks. 150
Rotterdam, 8 11 167
Dunkirk, 40 450
Boston, 1 1 cs. 48
Perth, 12 37
Sydney, 19 100
Cologne, 2 23
Dunedin, 42 17
Havre, 24 18
Trinidad, 500 bgs. 14 549
Wellington, 26 28
Madras, 22 28 kgs. 73
Melbourne, 11 37
Hamburg, 40 cks. 5 289
Amsterdam, 4 c. 6 115
Citric Acid—
Rotterdam, 2 kgs. £12
Genoa, 1 t. 4 c. 140
Durban, 1 6
Brisbane, 1 6
Amsterdam, 14 81
Reval, 10 kgs. 58
Dunedin, 2 4 cs. 35
Coal Products—
Aniline Oil
Genoa, 24 cks. £144
Brussels, 1 dm. 30
Melbourne, 6 cs. 35
New York, 20 700
Creosote
New York, 125 cks. 2 brls. £379
Creosote Salts
Philadelphia, 354 bgs. £108
Naphthaline
Antwerp, 170 bgs. £115
Hamburg, 6 cks. 53
Pitch
E. London, 7 cks. £6
Boston, 511 175
St. Nazaire, 1,220 t. 1,600
Alexandria, 200 brls. 51
Antwerp, 800 953
Dunkirk, 2,083 2,134
Pitch and Tar
Wellington, 3 cks. 20 dms. £9
Tar
Danzig, 500 cks. £280
Tar Salts
New York, 33 cks. £300
Toluol
Rotterdam, 48 cks. £240
Coal Products *(otherwise undes.)*—
Bremen, 10 cks. £25
Copper Sulphate—
Antwerp, 2 t. 15 c. £35
Canterbury, 2 10 42
Colombo, 13 15
Bordeaux, 58 10 973
Cream of Tartar—
Dunedin, 15 c. £59
Wellington, 1 t. 78
Cape Town, 5 20
Durban, 20 kgs. 77
Canterbury, 3 20
Disinfectants—
Jamaica, 75 dms. £33
Pt. Elizabeth, 5 cs. 16
Bombay, 5 pks. 18
Adelaide, 6 16
Wellington, 2 16
Colombo, 25 21
Hong Kong, { 165 / 10 cks. 77
Canterbury, 7 pks. 30
Calcutta, 2 12
Brisbane, 23 21
Durban, 2 cks. 10
Shanghai, 117 pks. 100
Dried Blood—
Dunkirk, 16 t. 10 c. £93
Manure—
Martinique, 98 t. 10 c. £270
Dominica, 10 2 90
Trinidad, 15 4 105
St. Lucia, 10 90
Guernsey, 2 13
Cape Town, 5 3 27
Adelaide, 2 10
Rouen, 43 2 130
Cullera, 620 2,600
Bordeaux, 30 150
Phosphorus—
Wellington, 4 c. £35
Otago, 11 cs. 89
Potash Salts—
King Geo. Sound, 9 t. 17 c. £731
Auckland, 30 14 2,760
Potassium Bichromate—
Rouen, 3 t. 3 c. £130
Potassium Chlorate—
Canterbury, 5 c. £[illegible]
Potassium Chloride—
Martinique, 41 t. 7 c. £[illegible]
Potassium Cyanide—
Sydney, 25 cs. £[illegible]
Auckland, 3 t. [illegible]
Melbourne, 6 1 c. [illegible]
Delagoa Bay, 14 [illegible]
Potassium Prussiate—
New York, 20 cks. £[illegible]
Salt Cake—
Ghent, 135 t. 4 c. £[illegible]
Saltpetre—
Hamburg, 10 c. £[illegible]
Sydney, 2 t. [illegible]
Sheep Dip—
B. Ayres, 1,250 cs £[illegible]
Soda Ash—
Dunedin, 7 t. 11 c. £[illegible]
Soda Crystals—
Cape Town, 2 t. 6 c. £[illegible]
Sydney, 2 15 [illegible]
Sodium Bicarbonate—
Durban, 1 t. £[illegible]
Singapore, 1 3 c. [illegible]
Sodium Prussiate—
Rouen, 10 c. £[illegible]
Sodium Sulphate—
Ghent, 50 t. £[illegible]
Sulphur—
Mauritius, 42 t. £[illegible]
Dunedin, 1 7
Sulphuric Acid—
Cape Town, 30 cs. £[illegible]
Durban, 50 [illegible]
Tartaric Acid—
Rouen, 10 c. £[illegible]
Adelaide, 5 [illegible]
Dunedin, 3 [illegible]
Melbourne, 5 kgs. [illegible]
Singapore, 3 [illegible]

VERPOOL.

d ending April 13th.

of Lead—

	1 t.	4 c.	1 q.	£42
a,	13 t.	4 c.	3 q.	£53
rne,	10			40
	1	5	3	5
al,	3	1	3	13
	7	6	3	30
	4	16	2	20
a,	37	10		150
o,	9	19		39
	30	13	3	120
astian,	9	19	1	40
	1 t.			£5
	3	3 c.	2 q.	15
nm,		12		3
	6	1		29
	2	4	3	10
	5			25
	7	4	3	33

ous Cake—

rne,	6 t.	3 c.	£18
a,	72	14	196

ia—

ki,		3 q.	£6

ia (Liquid)—

aiso,		2 c	£6
dria,	1 cs.		6

ium Carbonate—

rg,		6 c.	2 q.	£11
	1 t.	6		37
agen,	4			72

ium Chloride—

o,	1 t.	5 c.		£31
		15		22
	1			31
		9	3 q.	16
rg,		9		15
	2	2	3	68
		3		5
ruz,		3		7
a,	1	16		61
	3	13		6
ona,	2	9		45
olm,		2		2

ium Sulphate—

inary,	20 t.			£190
rp,	26	5 c.		234
elphia,	15	2	1 q.	143
lmas,	7	10		68
ork,	75	15		685
ona,	25			205
n's, N'fd.,	1	2		10
ang,	35			420
aya,	100			1,150
ngan,	290			3,075
rn,	53	4	3	496
ia,	100	11	1	920
	32			281

rous Ammonia—

elphia,	1 c.		£8

ony Salts—

y,	6 c.		£18

ony Sulphate—

ork,	1,600 lbs.		£40

ing Powder—

te,	33 cks.		
ore,	20	81 bxs.	
	30		
y,		20	
	555		
			6 cs.
ai,	18		
Town,		40	
			3
	177		
nburg,	15		
rn,	69		
	82		
	21		
irwater,	27		
ork,	440		
	31		
elphia,	31		
	40		
	3		
raiso,		10 brls.	
ruz,	25	5	

c Acid—

s,		11 c.	2 q.	£17
nd,		17		23
x,	1	6	3	36
n's N.B.,	1	10		41

Borax—

Naples,		9 c.	3 q.	£8
Rosario,		19	2	16
Melbourne,	9 t.			125
Tampico,	1			14
Cape Town,		10		7
Callao.		1	1	2
Valparaiso,	2	10	3	35
Rotterdam,	5	12		87
Christiania,	1	10		24
Palermo,		10		8
Riga,		7		4
St. John's, Nfd.,		15		12
Havana,	2	5		38
Antwerp,	2	17	1	43
Portland, M.,	4		3	60
Lisbon,			4 cks.	43
Ibrail,	2	2		31

Calcium—

Wellington, N.Z.,	1 t.	4 c.	£3
Christchurch,	3	5	7

Calcium Chloride—

Rouen,	5 t.	1 c.	2 q.	£12
Penang,	2	12		6
Alexandria,	2	7		11

Carbolic Acid—

Rouen	10 t.	13 c.	2 q.	£650
Cape Town,	1			9
Odessa,		6	2	24
Hamburg,	2	9	1	127
Baltimore,	4	5		312
Copenhagen,	1	2	2	67
Melbourne,	2	10		85
Yokohama,	2	10		151

Caustic Potash—

Fairwater,		4 c.	£5
Genoa,		7	10
Baltimore	2	10	65

Caustic Soda—

Alexandria,	16 dms.		
Amsterdam,	134		
Antwerp,	32		
Ascencion,	50		
Baltimore,		130 pks.	
Barcelona,	100		
Bordeaux,	15		
Boston,	200		75 brls.
Calcutta,	208		
Callao,	30		
Cape Town,	6		
Cartagena, Sp.,		76	
Catania,	20		
Cavalla,	4		
Champerico,	210		
Copenhagen,	3		
Coquimbo,	10		
Corral,	15		
Cuidad Bolivar,			2 drs.
E. London,	17		7 cs.
Fairwater,	135		
Galatz,	140		
Galt,	30		
Genoa,	180	2 cks.	
Guelph,	26	6 crts.	
Hamburg,	331		
Hong Kong,	180		
Ibrail,	35		
Jaffa,	15		
La Guayra,	15		
Louisville,	150		
Madeira,	25		
Madrid,	50		
Malaga,	169		
Maracaibo,	10		
Melbourne,	154		
Messina,	80		
Mexico City,	50		
Monterey,	30		
M. Video,	160		
Naples,	50		
N. Orleans,	150		
New York,	250		
Padang,	150		
Para,	60		
Paris,	15		
Pernambuco,	50		
Pt. Natal,	80		41 cs.
Porto Alegre,	50		
Rotterdam.	165		
St. John's, N.B.,	50		
Rouen,	11		
Salaverry,	20		
Saltillo,	10		
Samarang,	14		
Santander,	18		
Santos,	70		
Stettin,	63		
Stretensk,	8		
Sydney,	20	94 pks.	
Talcahuano,	60		
Toronto,			50 brls.
Trieste,	64		
Valparaiso,	125		
Varna,	10		
Vigo,	30		
Yokohama,	249		

Chemicals *(otherwise undescribed)*

Melbourne,	1 t.			£117
Philadelphia,	13	6 c.		399
Lisbon,		10		30
Calcutta,	2	8		87
Sydney,	2	9		262
Colon,	1 cs.			8

China Clay—

Adra,	8 cks.		
Barcelona,	100		
Bombay,	546		
Boston,	280		
Calcutta,	215 t.		
Genoa,	20	6 c.	
Newport News,	215		
Philadelphia,	430 cks.		
Portland, Me.,	900		
Sydney,	10		
Tampico,	8		
Venice,		100 bgs.	
Yarmouth,	220		
Portland,	400		

Coal Products—

Alizarine Colours				
New York,	10 cks.			
Aniline				
Alexandria,	1 ck.			
Aniline Colours				
New York,	1 cs.	40 cks.	3 kgs.	
Rouen.	1			
Valencia,	5			
Aniline Oil				
Boston,	6 dms.			
Genoa,		15 pks.		
Rouen,	4			
Aniline Salts				
Newport News,	48 cks.			
Anthracene				
Rotterdam,	20 cks.			
Creosote Salts				
Philadelphia,	437 bgs.			
Pitch				
Genoa,	29 t.	3 c.		
Malta,	7	10		
Nantes.	125			
Rio de Janeiro,	1 cs.			
Valparaiso,	10 brls.			
Vigo,	52			
Tar				
Conakry,	20 kgs.			
Egwanga,			10 brls.	
Galatz,	5 t.	5 c.		
Honolulu,			75	
St. John's, Nfld.,	50 tcs.		120	
Sierra Leone,			20	
Valparaiso,	25 kgs.			

Coal Products *(otherwise undes.)*—

Philadelphia.	33 t.	13 c.		£61
Boston,	32 pks.			

Copper Sulphate—

Rouen,	16 t.	10 c.		£277
Piræus,	1	2	3 q.	19
Brindisi,	19	19	2	342
Copenhagen,	5	6	1	91
Galatz,	2	9	1	44
Nantes,	38		3	627
Algiers,	8	19		144
Christiania,	1			15
Konigsberg,		19		13
Lille,	5		3	81
Messina,	1	18		29
Malaga,	1	18	2	29
Marseilles,	49	11	1	824
Talcahuano,	4	10	2	73
Bahia,		9	1	8
Oporto,	25	3	1	383
Ancona,	56	13	1	916
Calcutta,	40			32
Cette,	93	3	1	1,638
Genoa,	238	5	3	3,707
Bari,	138	6		2,121
Venice,	194	15		3,136
Leghorn,	143	1	1	2,252
Palermo,	13			210
Antwerp,	21	12		349
Lisbon,	95		2	1,571
Naples,	75		2	1,186
Bordeaux,	790	19		12,792

Copperas—

Pt. Natal,	10 c.		£1
Syra,	2 t.		4
Volo,	11	6	23

Creosote Salts—

Bordeaux,	49 t.	17 c.	£100

Disinfectants—

Natal,		3 c.	£5
Colombo,	4 cks.	8 kgs.	25

French Chalk—

Pernambuco,	15 pks.

Guano—

Barcelona,	27 t.	11 c.		£23 5

Lead Nitrate—

Portland, M.,	3 t.	3 c.	£66

Magnesia—

Barcelona,	4 cs.	
St. John's, N.B.,	6	

Magnesium Chloride—

Rangoon,	1 t.	8 c.	£5

Magnesium Sulphate—

San Jose De Guatemala,		25 kgs.

Manganese—

Valencia,		19 c.	£12

Manure—

St. John's, Nfld.,	5 t.		£50
Bordeaux,	27	6 c.	110
Gd. Canary,	5		25
Providence,	4	6	57
Las Palmas,	3	15	25
Seville,	1	15	11

Muriatic Acid—

Pernambuco,		9 c.	£6

Oxalic Acid—

Genoa,		10 c.	£16
Syra,		6	11
Rotterdam,	11 t.	1	300
Amsterdam,	10		500

Paint—

Alexandria,	6 pks.		
Algoa Bay,		60 kgs.	
Barbadoes.		80	
Barranquilla,			37 cs.
Bombay,			40 dms.
Brass,			11 bgs.
Calcutta,	216		
Caldera,	14		
Colon,	22		
Copenhagen,		80	
Degama,	3		
El Triumfo,			16 cks.
Fiume,			25 dms.
Gibraltar,	145		
Hong Kong,	131		
Lagos,	234		
La Libertad,	4		
Larnaca,			1 cks.
Limon,			2
Lima,			25 cs.
Maracaibo,		295	
Nassau,	16		
Panama,			10 dms. 7 cks.
Pisco,		1 brl.	5
Pt. Said,	62		
Richibucto,		15 kgs.	
Rosario,			10
St. John's, Nfld.,		8	
Singapore,		60	
Sierra Leone,			3 cs.
Sydney,			247 dms.
Trinidad,			20
San Francisco,			40
Valparaiso,		310	16 cs.

Painters' Colours—

Alexandria,	97 pks.		
Bonavista,		3 cks.	
Calcutta,	72		
Cape Town,	16		
Galatz,	400		
Guayaquil,	50		
Havana,	5		
Kurrachee,	555		
Lisbon,			qty.
Manaos,	10		
Manila,	400		
M. Video,	40		
Pernambuco,			50 brls.
Ponce,	3		
Puerto Cabello,		1	
Punta Arenas,			4
Santos,	22		

Paraffin Wax—

Brass,			18 dms.
Callao,	31 bgs.		
Fiume,		3 cs.	
Genoa,	292		
Hamburg,		5	
Leghorn,	120		
Naples,	150		
Pernambuco,	8 cks.		
Singapore,	15		
Syra,		10	
Trieste,		10	
Venice,	18 bgs.		

Phosphorus—

Tampico,		10 c.	£100
Shanghai,	1 t.	8	215
Hiogo,	2	18	435
Hamburg,		10	140

Potash—

Lisbon,		5 c.	£24

Potash Salts—

Honolulu,	7 t.	5 c.		£15
Corinto,	5	1	1 q.	457

Aniline Colours
Hamburg, 3 cs.
Aniline Salts
Rotterdam, 9 cks. J. Rankine & Son
Argols
Bordeaux, 23 bgs.
Logwood
Guna De Terminos, 230 t. Calder, Henderson & Livingstone
Farina—
Delfszyhl, 350 bgs. J. Rankine & Son
Hamburg, 85
Glucose—
New York, 398 brls.
Boston, 100
Philadelphia, 400
Glue—
Rotterdam, 60 bgs. J. Rankine & Son
Hamburg, 60
Lactic Acid—
Boston, 10 brls.
Paint—
New York, 164 kgs.
Paraffin Scale—
Philadelphia, 275 brls.
Phosphate of Lime and Rock—
Antwerp, 1,620 bks.
Potash—
Rotterdam, 64 cks. J. Rankine & Son
Pyrites—
Huelva, 2,031 t. Tharsis Co.
Rosin—
Brunswick, Ga., 3,899 brls.
Soap—
Newport News, 67 brls.
Sodium Acetate—
Rouen, 10 cks.
Sodium Nitrate—
Tocopilla, 8,167 bgs. Thomson, Aikman & Co.
Starch—
Antwerp, 10 bgs. 160 cs.
Newport News, 500
Tallow—
New-York, 50 tcs. 50 hds.
Treacle—
Philadelphia, 500 brls. Waddell & Bryson
" 50
Varnish—
New York, 189 brls.
Antwerp, 2 cs. 1 ck.
Waste Salt—
Hamburg, 125 cks. 400 bgs.
White Lead—
Rotterdam, 39 cks. J. Rankine & Son
Wood Pulp—
Christiania, 612 bls.
Hamburg, 30
Rotterdam, 20 pks. J. Rankine & Son
Zinc Oxide—
New York, 150 brls.
Hamburg, 50 cks.
Zinc White—
Rotterdam, 10 cks. 75 pks. J. Rankine & Son

TYNE.

Week ending April 9th.

Alum Earth—
Hamburg, 102 cks. Tyne S. S. Co.
Barytes—
Antwerp, 63 brls. 200 bgs. Tyne S. S. Co.
Rotterdam, 100 "
Colours—
Antwerp, 7 brls. Tyne S. S. Co.
Glue—
Hamburg, 20 bgs. Tyne S. S. Co.
Limestone—
Antwerp, 23 crts. Tyne S. S. Co.
Quicksilver—
Copenhagen, 100 cyldrs.
Soap—
Rotterdam, 3 cs. Tyne S. S. Co.
Starch—
Rotterdam, 50 cs. Tyne S. S. Co.
Stearine—
Antwerp, 4 bgs. Tyne S. S. Co.
Wood Pulp—
Gothenburg, 20 t.
Zinc Ashes—
Antwerp, 1 ck. Tyne S. S. Co.
Zinc Oxide—
Antwerp, 20 brls. Tyne S. S. Co.
Rotterdam, 20 cks. "

GOOLE.

Week ending April 6th.

Acetic Acid—
Rotterdam, 10 cks.
Antwerp, 80 crbys.
Alizarine—
Rotterdam, 48 brls. 1 cs.
Alkali—
Calais, 4 cks.
Alum—
Rotterdam, 21 bgs.
Antimony—
Boulogne, 1 ck.
Benzine—
Calais, 1 dm.
Colours—
Hamburg, 19 cs.
Disinfectants—
Rotterdam, 38 cks.
Dyestuffs *(otherwise undescribed)*
Boulogne, 156 cks. 5 cs.
Rotterdam, 212 86
Glue—
Delfszyhl, 166 bgs.
Boulogne, 1 ck.
Logwood—
Hamburg, 8 t.
Belize, 355
Hayti, 570
Manure—
Boulogne, 13 bgs.
Potash—
Rotterdam, 100 cks.
Antwerp, 1
Calais, 15 dms.
Pyrites—
Seville, 830 t.
Bosmo, 900
Saltpetre—
Rotterdam, 100 bgs.
Soap—
Rotterdam, 7 cs.
Soda—
Rotterdam, 20 cks.
Sodium Silicate—
Rotterdam, 2 cks.
Starch—
Ghent, 102 cs.
Varnish—
Boulogne, 1 ck.
Waste Salt—
Hamburg, 140 t.

GRIMSBY.

Week ending April 9th.

Barytes—
Rotterdam, { 1 ck. 100 bgs.
Caoutchouc—
Antwerp, 15 cs.
Hamburg, 4 pks.
Chemicals *(otherwise undescribed)*
Rotterdam, 2 crbys.
Colours—
Antwerp, 25 cks. 27 pks.
Hamburg, 16 6
Rotterdam, 3 1 cs.
Farina—
Hamburg, 300 bgs.
Glue—
Hamburg, 6 bgs.
Starch—
Antwerp, 200 cs.
Varnish—
Hamburg, 1 ck.
Waste Salt—
Hamburg, 1,000 bgs
Wood Pulp—
Helsingborg, 159 bls.
Zinc Ashes—
Antwerp, 12 cks.
Zinc Oxide—
Antwerp, 20 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 13th.

Acids—
Cape Town, 21 pks. £38
Ammonia (Liquid)—
Cologne, 25 dms. £116
Ammonium Carbonate—
Melbourne, 7 cs. £11
Ammonium Chloride—
Samsoun, 12 c. £19
Alexandretta, 11 17
Ammonium Sulphate—
Ostend, 170 t. £1,740
Amsterdam, 50 450
Martinique, 50 14 c. 478
Ghent, 75 650
Dunkirk, 10 90
Antwerp, 50 450
Anhydrous Ammonia—
Cape Town, 6 cyldrs. £53
Arsenic—
Wellington, 1 t. £22
Borax—
Dusseldorf, 7 t. 10 c. £125
Carbolic Acid—
Shanghai, 210 dms. £22
Colombo, 9 pks. 5
Melbourne, 2 cs. 11
Caustic Soda—
Delagoa Bay, 11 c. £10
Chemicals *(otherwise undescribed)*
Pt. Elizabeth, 8 pks. £12
Antwerp, 10 cks. 150
Rotterdam, 8 11 167
Dunkirk, 40 450
Boston, 1 1 cs. 48
Perth, 12 37
Sydney, 19 100
Cologne, 2 23
Dunedin, 42 17
Havre, 24 18
Trinidad, 500 bgs. 14 549
Wellington, 26 28
Madras, 22 28 kgs. 73
Melbourne, 11 37
Hamburg, 40 cks. 5 289
Amsterdam, 4 c. 6 115
Citric Acid—
Rotterdam, 2 kgs. £12
Genoa, 1 t. 4 c. 140
Durban, 1 6
Brisbane, 1 6
Amsterdam, 14 81
Reval, 10 kgs. 58
Dunedin, 2 4 cs. 35
Coal Products—
Aniline Oil
Genoa, 24 cks. £144
Brussels, 1 dm. 30
Melbourne, 6 cs. 35
New York, 20 700
Creosote
New York, 525 cks. 2 brls. £379
Creosote Salts
Philadelphia, 354 bgs. £108
Naphthaline
Antwerp, 170 bgs. £115
Hamburg, 6 cks. 53
Pitch
E. London, 7 cks. £6
Boston, 511 175
St Nazaire, 1,220 t. 1,600
Alexandria, 200 brls. 51
Antwerp, 800 953
Dunkirk, 2,083 2,134
Pitch and Tar
Wellington, 3 cks. 20 dms. £9
Tar
Danzig, 500 cks. £980
Tar Salts
New York, 33 cks. £300
Toluol
Rotterdam, 48 cks. £240
Coal Products *(otherwise undes.)*—
Bremen, 10 cks. £25
Copper Sulphate—
Antwerp, 2 t. 15 c. £35
Canterbury, 2 10 42
Colombo, 13 15
Bordeaux, 58 10 973
Cream of Tartar—
Dunedin, 15 c. £59
Wellington, 1 t. 78
Cape Town, 5 20
Durban, 20 kgs. 77
Canterbury, 3 20
Disinfectants—
Jamaica, 75 dms. £33
Pt. Elizabeth, 5 cs. 16
Bombay, 5 pks. 18
Adelaide, 6 16
Wellington, 2 16
Colombo, 25 21
Hong Kong, { 165 / 10 cks. 77
Canterbury, 7 pks. 30
Calcutta, 2 12
Brisbane, 23 21
Durban, 2 cks. 10
Shanghai, 117 pks. 100
Dried Blood—
Dunkirk, 16 t. 10 c. £93
Manure—
Martinique, 98 t. 10 c. £270
Dominica, 10 2 90
Trinidad, 15 4 105
St. Lucia, 10 90
Guernsey, 2 13
Cape Town, 5 3 27
Adelaide, 2 10
Rouen, 43 2 130
Cullera, 620 2,600
Bordeaux, 30 150
Phosphorus—
Wellington, 4 c. £35
Otago, 11 cs. 89
Potash Salts—
King Geo. Sound, 9 t. 17 c. £731
Auckland, 30 14 2,760
Potassium Bichromate—
Rouen, 3 t. 3 c. £130
Potassium Chlorate—
Canterbury, 5 c. £[illegible]
Potassium Chloride—
Martinique, 41 t. 7 c. £[illegible]
Potassium Cyanide—
Sydney, 25 cs. £[illegible]
Auckland, 3 t. [illegible]
Melbourne, 6 1 c. [illegible]
Delagoa Bay, 14 [illegible]
Potassium Prussiate—
New York, 20 cks. £[illegible]
Salt Cake—
Ghent, 135 t. 4 c. £[illegible]
Saltpetre—
Hamburg, 10 c. £[illegible]
Sydney, 2 t. [illegible]
Sheep Dip—
B. Ayres, 1,250 cs. £[illegible]
Soda Ash—
Dunedin, 7 t. 11 c. £[illegible]
Soda Crystals—
Cape Town, 2 t. 8 c. [illegible]
Sydney, 2 15
Sodium Bicarbonate—
Durban, 1 t. £[illegible]
Singapore, 1 3 c.
Sodium Prussiate—
Rouen, 10 c. £[illegible]
Sodium Sulphate—
Ghent, 50 t. £[illegible]
Sulphur—
Mauritius, 42 t. £[illegible]
Dunedin, 1
Sulphuric Acid—
Cape Town, 30 cs. £[illegible]
Durban, 50 [illegible]
Tartaric Acid—
Rouen, 20 c. £[illegible]
Adelaide, 5 [illegible]
Dunedin, 3 [illegible]
Melbourne, 5 kgs. [illegible]
Singapore, 3 [illegible]

ERPOOL.

ending April 13th.

f Lead—

	1 t.	4 c.	1 q.	£42
	13 t.	4 c.	3 q.	£53
	10			40
	1	5	3	5
	3	1	3	13
	7	6	3	30
	4	16	2	20
	37	10		150
	9	19		39
	30	13	3	120
ian,	9	19	1	40
	1 t.			£5
	3	3 c.	2 q.	15
		10		3
	6	1		29
	2	4	3	10
	5			25
	7	4	3	33

s Cake—

	6 t.	3 c.		£18
	72	14		196

—

			3 q.	£6

(Liquid)—

		2 c		£6
	1 cs.			6

m Carbonate—

		6 c.	2 q.	£11
	1 t.	6		37
:n,	4			72

m Chloride—

	1 t.	5 c.		£31
		15		22
	1			31
		9	3 q.	16
		9		15
	2	2	3	68
		3		5
		3		7
	1	16		61
	3	13		6½
	2	9		45
		2		2

m Sulphate—

y,	20 t.			£190
	26	5 c.		234
ia,	15	2	1 q.	143
s,	7	10		68
	75	15		685
	25			205
N'fd.,	1	2		10
	35			410
	100			1,150
n,	290			3,075
	53	4	3	496
	100	11	1	920
	32			281

s Ammonia—

ia,		1 c.		£8

Salts—

		6 c.		£18

Sulphate—

	1,600 lbs.			£40

Powder—

	33 cks.			
	20	81 bxs.		
	30			
		20		
	555			
			6 cs.	
	18			
,		40		
			3	
	177			
g,	15			
	69			
	82			
	21			
ter,	27			
	440			
	31			
ia,	31			
	40			
	3			
		10 brls.		
	25	5		

cid—

		11 c.	2 q.	£17
		17		23
	1	6	3	36
N.B.,	1	10		41

Borax—

Naples,		9 c.	3 q.	£8
Rosario,		19	2	16
Melbourne,	9 t.			125
Tampico,	1			14
Cape Town,		10		7
Callao.		1	1	2
Valparaiso,	2	10	3	35
Rotterdam,	5	12		87
Christiania,	1	10		24
Palermo,		10		8
Riga,		7		4
St. John's, Nf'd.,		15		12
Havana,	2	5		38
Antwerp,	2	17	1	43
Portland, M.,	4		3	60
Lisbon,			4 cks.	43
Ibrail,	2	2		31

Calcium—

Wellington, N.Z.,	1 t.	4 c.		£3
Christchurch,	3	5		7

Calcium Chloride—

Rouen,	5 t.	1 c.	2 q.	£12
Penang,	2	12		6
Alexandria,	2	7		11

Carbolic Acid—

Rouen	10 t.	13 c.	2 q.	£650
Cape Town,	1			9
Odessa,		6	2	24
Hamburg,	2	9	1	127
Baltimore,	4	5		312
Copenhagen,	1	2	2	67
Melbourne,	2	10		85
Yokohama,	2	10		152

Caustic Potash—

Fairwater,		4 c.		£5
Genoa,		7		10
Baltimore	2	10		65

Caustic Soda—

Alexandria,	16 dms.		
Amsterdam,	134		
Antwerp,	32		
Ascencion,	50		
Baltimore,		130 pks.	
Barcelona,	100		
Bordeaux,	15		
Boston,	200		75 brls.
Calcutta,	208		
Callao,	30		
Cape Town,	6		
Cartagena, Sp.,		76	
Catania,	20		
Cavalla,	4		
Champerico,	210		
Copenhagen,	3		
Coquimbo,	10		
Corral,	15		
Cuidad Bolivar,			2 drs.
E. London,	12		7 cs.
Fairwater,	135		
Galatz,	140		
Galt,	30		
Genoa,	180	2 cks.	
Guelph,	26	6 crts.	
Hamburg,	331		
Hong Kong,	180		
Ibrail,	35		
Jaffa,	15		
La Guayra,	15		
Louisville,	150		
Madeira,	25		
Madrid,	50		
Malaga,	169		
Maracaibo,	10		
Melbourne,	154		
Messina,	80		
Mexico City,	50		
Manterey,	30		
M. Video,	160		
Naples,	50		
N. Orleans,	150		
New York,	250		
Padang,	150		
Para,	60		
Paris,	15		
Pernambuco,	50		
Pt. Natal,	80		41 cs.
Porto Alegre,	50		
Rotterdam.	165		
St. John's, N.B.,	50		
Rouen,	11		
Salaverry,	20		
Saltillo,	10		
Samarang,	14		
Santander,	18		
Santos,	70		
Stettin,	63		
Stretensk,	8		
Sydney,	20	94 pks.	
Talcahuano,	60		
Toronto,			50 brls.
Trieste,	64		
Valparaiso,	125		
Varna,	10		
Vigo,	30		
Yokohama,	249		

Chemicals *(otherwise undescribed)*

Melbourne,	1 t.			£117
Philadelphia,	13	6 c.		399
Lisbon,		10		30
Calcutta,	2	8		87
Sydney,	2	9		262
Colon,	1 cs.			8

China Clay—

Adra,	8 cks.	
Barcelona,	100	
Bombay,	546	
Boston,	280	
Calcutta,	215 t.	
Genoa,	20	6 c.
Newport News,	215	
Philadelphia,	430 cks.	
Portland, Me.,	900	
Sydney,	10	
Tampico,	8	
Venice,		100 bgs.
Yarmouth,	220	
Portland.	400	

Coal Products—

Alizarine Colours			
New York,	10 cks.		
Aniline			
Alexandria,	1 ck.		
Aniline Colours			
New York,	1 cs.	40 cks.	3 kgs.
Rouen.	1		
Valencia,	5		
Aniline Oil			
Boston,	6 dms.		
Genoa,		15 pks.	
Rouen,	4		
Aniline Salts			
Newport News,	48 cks.		
Anthracene			
Rotterdam,	20 cks.		
Creosote Salts			
Philadelphia,	437 bgs.		
Pitch			
Genoa,	29 t.	3 c.	
Malta,	7	10	
Nantes.	125		
Rio de Janeiro,	1 cs.		
Valparaiso,	10 brls.		
Vigo,	52		
Tar			
Conakry,	20 kgs.		
Egwanga,			10 brls.
Galatz,	5 t.	5 c.	
Honolulu,			75
St. John's, Nfld.,	50 tcs.		120
Sierra Leone,			20
Valparaiso,	25 kgs.		

Coal Products *(otherwise undes.)*—

Philadelphia,	33 t.	13 c.		£61
Boston,	32 pks.			

Copper Sulphate—

Rouen,	16 t.	10 c.		£277
Piræus,	1	2	3 q.	19
Brindisi,	19	19	2	342
Copenhagen,	5	6	1	91
Galatz,	2	9	1	44
Nantes,	38		3	627
Algiers,	8	19		144
Christiania,	1			15
Konigsberg,		19		15
Lille,	5		3	81
Messina,	1	18		29
Malaga,	1	18	2	29
Marseilles,	49	11	1	824
Talcahuano,	4	10	2	73
Bahia,		9	1	8
Oporto,	25	3	1	383
Ancona,	56	13	1	916
Calcutta,	40			32
Cette,	93	3	1	1,638
Genoa,	238	5	3	3,767
Bari,	138	6		2,121
Venice,	194	15		3,136
Leghorn,	143	1	1	2,252
Palermo,	13			210
Antwerp,	21	12		349
Lisbon,	95		2	1,571
Naples,	75		2	1,186
Bordeaux,	790	19		12,792

Copperas—

Pt. Natal,		10 c.	£1
Syra,	2 t.		4
Volo,	11	6	23

Creosote Salts—

Bordeaux,	49 t.	17 c.	£100

Disinfectants—

Natal,		3 c.	£5
Colombo,	4 cks.	8 kgs.	25

French Chalk—

Pernambuco,	15 pks.

Guano—

Barcelona,	27 t.	11 c.	£23

Lead Nitrate—

Portland, M.,	3 t.	3 c.	£66

Magnesia—

Barcelona,	4 cs.
St. John's, N.B.,	6

Magnesium Chloride—

Rangoon,	1 t.	8 c.	£5

Magnesium Sulphate—

San Jose De Guatemala,	25 kgs.

Manganese—

Valencia,	19 c.	£12

Manure—

St. John's, Nfld.,	5 t.		£50
Bordeaux,	27	6 c.	110
Gd. Canary,	5		25
Providence,	4	6	57
Las Palmas,	3	15	25
Seville,	1	15	11

Muriatic Acid—

Pernambuco,	9 c.	£6

Oxalic Acid—

Genoa,		10 c.	£16
Syra,		6	12
Rotterdam,	11 t.	1	300
Amsterdam,	10		500

Paint—

Alexandria,	6 pks.		
Algoa Bay,		60 kgs.	
Barbadoes.		80	
Barranquilla,			37 cs.
Bombay,			40 dms.
Brass,			11 bgs.
Calcutta,	216		
Caldera,	14		
Colon,	22		
Copenhagen,		80	
Degama,	3		
El Triumfo,			16 cks.
Fiume,			25 dms.
Gibraltar,	145		
Hong Kong,	131		
Lagos,	234		
La Libertad,	4		
Larnaca,			1 cks.
Limon,			2
Lima,			25 cs.
Maracaibo,		205	
Nassau,	16		
Panama,			10 dms. 7 cks.
Pisco,		1 brl.	5
Pt. Said,	62		
Richibucto,		15 kgs.	
Rosario,			10
St. John's, Nfld.,		8	
Singapore,		60	
Sierra Leone,			3 cs.
Sydney,			247 dms.
Trinidad,			20
San Francisco,			40
Valparaiso,		310	16 cs.

Painters' Colours—

Alexandria,	97 pks.		
Bonavista,		3 cks.	
Calcutta,	71		
Cape Town,	16		
Galatz,	400		
Guayaquil,	50		
Havana,	5		
Kurrachee,	555		
Lisbon,			qty.
Manaos,	10		
Manila,	400		
M. Video,	40		
Pernambuco,			50 brls.
Ponce,	3		
Puerto Cabello,		1	
Punta Arenas,			4
Santos,	22		

Paraffin Wax—

Brass,		18 dms.
Callao,	31 bgs.	
Fiume,		3 cs.
Genoa,	292	
Hamburg,		5
Leghorn,	120	
Naples,	150	
Pernambuco,	8 cks.	
Singapore,	15	
Syra,		10
Trieste,		10
Venice,	18 bgs.	

Phosphorus—

Tampico,		10 c.	£100
Shanghai,	1 t.	8	235
Hiogo,	2	18	435
Hamburg,		10	140

Potash—

Lisbon,	5 c.	£24

Potash Salts—

Honolulu,	7 t.	5 c.		£15
Corinto,	5	1	1 q.	45

Potassium Bichromate—
Rouen, 4 t. 18 c. 2 q. £175
Rio de Janeiro, 11 1 20
Sydney, 16 2 30
Lisbon, 3 cks. 33

Potassium Carbonate—
Baltimore, 12 t. 4 c. £219

Potassium Chlorate—
Palermo, 5 c. £8
M. Video, 5 7
Pernambuco, 1 t. 20 45
Antwerp, 5 7
Rotterdam, 15 20
Riga, 1 10 46
Corunna, 2 10 68
Pasages, 1 10 45
Genoa, 1 34
Bari, 2 69
Libau, 2 19 91
Ancona, 1 10 46
Stettin, 3 226
Konigsberg, 1 30
Sydney, 5 140
New York, 3 15 104
Yokohama, 6 5 184
Hiogo, 10 268

Potassium Cyanide—
Sydney, 3 t. £255

Potassium Prussiate—
Calcutta, 5 c. £16
Genoa, 5 t. 12 3 q. 270

Salt—
Accra, 800 bgs.
Adelaide, 1,000 sks.
Alexandria, 200
Amsterdam, 110 t.
Antwerp, 100
Axim, 400 8 c.
Baltimore, 304
Barbadoes, 50
Berracoe, 12 10
Black River, Ja., 17 17
Bleiroy, 7 7
Boma, 15 2
Boston, 1,000 sks.
Brass, 7 t. 10
B. Ayres, 36
Calcutta, 9,797
Camercons, 32 2
Cape Coast, 7 10
Cape Town, 150
Carlton, 128 10
Ceara, 1 cs.
Charlotte Town, 20
Chicago, 200
Christiania, 110
Colombo, 3
Conakry, 48 17
Delagoa Bay, 139
E. London, 163 14
Ghent, 150
Gibraltar, 20 bgs.
Gd. Bassa, 9 t. 16
Halifax, 410
Kotonou, 54
Konillon, 145 1
Lagos, 243 8
Landana, 12 10
Loango, 29
Melbourne, 349
Miramichi, 250
M. Video, 75
New York, 105
Norrkoping, 61 7
Para, 100
Philadelphia, 4
Pt. Elizabeth, 17 17
Portland, Me., 13
Pt. Natal, 276 5
Rio de Janeiro, 50
Rotterdam, 168
St. John s, N.B., 13
Shediac, 950
Sierra Leone, 10
Stockholm, 100
Sydney, 300
Trinidad, 21
Vera Cruz, 10

Salt Cake—
Antwerp, 60 t. £63
Terneuzen, 95 122
Sydney, 5 2 c. 12
Philadelphia, 20 11 36
Lisbon, 40 66
Delagoa Bay, 10 26

Saltpetre—
Pernambuco, 5 t. 14 c. 1 q. £113
Valparaiso, 5 6
Savanilla, 14 21

Sheep Dip—
Rosario, 12 t. £250
Melbourne, 13 9 c. 2 q. 113
Pt. Elizabeth, 11 17 2 130
Algoa Bay, 1,000 dms.
B. Ayres, 100 cs. 180

Soap—
Aden, 50 bdls.
Alexandria, 115 bxs. 20 dms.
Algoa Bay, 2,510 25 bdls.
Antwerp, 10 cs.
Assinee, 200
Barbadoes, 1,317
Baberton, 6
Batavia, 6
Bay Roberts, 30
Beira, 80
Bermuda, 26
Bluefields, 100
Bloemfontein, 10
Bombay, 986 9
Boston, 1
Brass, 100
Brooklyn, 2
Brussels, 160
B. Ayres, 4
Calcutta, 622 pks.
Callao, 2 15
C. C. Castle, 103
Cape Gracias, 200
Cape Town, 4,385 95
Christiania, 75 200 10 bdls.
Colombo, 6 pks.
Conakry, 40 450
Coquimbo, 2
Corinto, 235
Curacao, 150
Delagoa Bay, 100 2,256
Demerara, 319
Delhi, 10
Dixcove, 100
Drewin, 40
Durban, 175
E. London, 1,434
Elmina, 14
Galatz, 20
Genoa, 6
Gibraltar, 135
Gothenburg, 200
Gd. Bassa, 20
Gd. Bassam, 60
Halifax, 600
Hong Kong, 1,500
Johannesburg, 50 50
Kingston, 2,547 70
Kingston Jam., 1
Kurrachee, 15
Lagos, 300
Las Palmas, 50
Lima, 1
Macassar, 601
Madras, 45
Manaos, 1,255
Manta, 300
Menada, 1,001
Montreal, 3 500
Mossel Bay, 1,100 20
Naples, 7
New York, 3 86
Old Calabar, 24
Para, 730 180 bdls.
Penang, 455
Patras, 9 pks.
Pt. Natal, 2,325 100 26 bdls.
Pretoria, 20
Rawal Pindi 12
Quittah, 20
Rangoon, 600
Rosario, 12
Rotterdam, 208
Saltpond, 80
San Juan Del Sur, 670
Santa Martha, 200
Savanilla, 2
Shanghai, 11,590
Sierra Leone, 300
Singapore, 3,275
Smyrna, 30
Surinam, 40
Teneriffe, 674
Toronto, 956
Trinidad, 1 7 pks.
Valparaiso, 100 35 brls. 127

Soda—
Sherbrooke, 110 bgs.

Soda Alkali—
Oporto, 43 brls.
Rouen, 69 bgs. 2
St. John's, N.B., 38

Soda Ash—
Amelais, 750 bgs.
Antwerp, 750
Baltimore, 37 cks.
Bombay, 60 kgs.
Boston, 323 tcs.
B. Ayres, { 100 / 100 brls.
Calcutta, 500 24 343
Canterbury, 34
Christiania, 500 bgs.
Copenhagen, 900
Dunedin, 5 tcs. 134
Fairwater, 1,034
Freemantle, 40
Genoa, 100
Gibraltar, 100
Gothenburg, 50 54
Hamburg, 570
Hamilton, 150
Hiogo, 384
Hango, 4
Huelva, 20
Johannesburg, 20 kgs.
Lagos, 25
Leghorn, 141 bgs.
Lisbon, 20
Magog, 19 tcs.
Maranham, 8
Melbourne, 766
Montreal, 98
New York, 3,140 96 8
Philadelphia, 2,040 116
Pt. Natal, 40 kgs.
Preston, Ont., 80 bgs.
Rio de Janeiro, 27 kgs. 90 / 40 brls.
St. John's, N.B., 260 bgs.
Salonica, 87 tcs.
Shanghai, 17
Sherbrooke, 750
Stettin, 300
Stockholm, 26
Sydney, 230
Talcahuano, 100
Toronto, 400
Venice, 300
Vera Cruz, 13 50
Wellington, 10

Soda Crystals—
Boston, 280 pks.
B. Ayres, 50 kgs.
Gibraltar, 30 brls.
Halifax, 25
Iquique, 50
Madras, 40
Malta, 60
New York, 560 cks.
Pt. Natal, 45
Valparaiso, 200

Sodium Acetate—
Vera Cruz, 2 cks.

Sodium Arseniate—
Magog, 2 cks.

Sodium Bicarbonate—
Adelaide, { 20 bgs. / 214 kgs.
Alexandria, 40 10 brls.
Algiers, 10
Barcelona, 30
Bari, 80 cks.
Bombay, 101 131
Bordeaux, 110 20
Bourgas, 110
Calcutta, 1,375 7
Calicut, 23 bgs.
Christiania, 20 kgs. 22 pks.
Colombo, 7 bgs.
Copenhagen, 20 kgs.
E. London, 30
Galatz, 90
Genoa, 119 31 cks.
Halifax, 85
Havana, 25
Havre, 90
Hiogo, 500
Honolulu, 20
Johannesburg, 44
Konigsberg, 160 5
Kurrachee, 125
Libau, 190
Lisbon, 40 dms.
London, 200
Marseilles, 188 7 pks.
Melbourne, 897 66 cks.
Miramichi, 30
Nantes, 6
Naples, 90
Odessa, 350
Oporto, 35
Otago, 40
Penang, 10
Pt. Natal, 60
Riga, 539 5
Rouen, 373 pks.
St. John's, N.B., 400
San Jose De Guatemala, 25
Santos, 40
Smyrna, 30
Stamboul, 70
Sydney, 34
Tampico, 30
Townsville, 14
Valparaiso, 10 brls.
Wellington, 150
Yokohama, 100

Sodium Bichromate—
Hamburg, 6 cks.

Sodium Carbonate—
Boston, 56 brls.
New York, 56

Sodium Chlorate—
Hamburg, { 10 cks. / 30 kgs.
Newfairwater, 10 4 brls.

Sodium Hyposulphite—
Callao, 40 kgs.
Genoa, 10 brls.
Havana, 5 cks.

Sodium Silicate—
Bilbao, 25 brls.
Bombay, 10
Cape Town, 4
La Guayra, 5
Nantes, 16 cks.
Santander, 10
Zante, 20

Sodium Sulphate—
Fairwater, 18 dms.
San Francisco, 50 brls.

Starch—
Boston, 15 cks.
Callao, 6 cs.
Mossamedes, 4
Santos, 10

Sulphite of Lime—
Pt. Lyttelton, 6 c. £21

Sulphur—
Las Palmas, 2 t. 19 c. 3 q. £22
Maceio, 1 4 2 9
Callao, 13 1 5
Antwerp, 5 18
New York, 1 17
Boston, 200 8 852
Christiania, 5 22
St. John's, 2 14
Porto Rico, 1 9 9
Melbourne, 4 19 26

Sulphuric Acid—
Savanilla, 5 gins. £9

Superphosphates—
Valencia, 300 t. 3 c. £675
Cape Town, 10 22
Nakskov, 675 1,470

Tartar—
Sydney, 2 c. 1 q. £10

Tartaric Acid—
Savanilla, 1 cs. £6
Arica, 1 c. 2

Varnish—
Batavia, 5 cs.
Bombay, 50 23 crts.
Genoa, 8 pks.
Osaka, 20 cks.
San Sebastian, 2 brls.

White Lead—
St. Kitts, 4 cks.

MANCHESTER.

Period ending April 13th.

Alum—
Barcelona, 8 cks.

Ammonium Carbonate—
Tripoli, S., 1 brl.

Ammonium Sulphate—
Barcelona, 247 bgs.
Cullera, 2,530
Valencia, 1,893

Aniline Colours—
Barcelona, 7 cks. 7 kgs.

Aniline Oil—
Belgium, 2 dms.
Germany, 4

Aniline Salts—
Alexandria, 30 cks.

Anthracene—
Germany, 65 cks.

Caustic Potash—
Bombay, 1 dm.

Caustic Soda—
Bahia, 30 dms.

Chemicals (*otherwise unescribed*)
Alexandretta, 8 cks.
Alexandria, 114 brls.
Beyrout, 20
Tripoli, B., 50

Copperas—
Beyrout, 20 brls.

Dextrine—
Barcelona, 145 bgs.

Farina—
Barcelona, 60 bgs.

Glue—
Barcelona, 16 cks.
Spain, 22
Germany, 4
Holland, 7
Naphtha—
Paris, 25 brls.
Paint—
Alexandria, 170 kgs.
Paraffin Wax—
Barcelona, 20 dbl.-bls.
Hamburg, 60 cs.
Rio de Janeiro, 6
Potassium Bichromate—
Germany, 1 ck
Pumice Stone—
Bombay, 1 cs.
Soap—
Barcelona, 4 cks.
Holland, 12 cs.
Alexandria, 12
Tantah, 90 bxs.
Sodium Bicarbonate—
Barcelona, 45 kgs.
Paris, 34
Sodium Naphthionate—
Switzerland, 24 cks.
Tallow—
Holland, 14 cks.
Bombay, 6
Tar Colours—
Germany, 18 kgs. 1 cs.
Tar Oil—
Belgium, 10 brls.
Germany, 20 10 dms.
Tar Salts—
Germany, 10 brls.
Toluol—
Germany, 8 dms.
Varnish—
Bombay, 1 cs.
Whiting—
Bombay, 29 cks.

HULL.

Week ending April 9th.

Alkali—
Genoa, 40 cks.
Riga, 200 kgs.
Ammonium Sulphate—
Dunkirk, 498 bgs.
Marseilles, 840
Bleaching Powder—
Danzig, 49 cks.
Stettin, 17
Caustic Soda—
Genoa, 52 dms.
Chemicals (*otherwise undescribed*)
Amsterdam, { 20 kgs. / 97 cks.
Bergen, 1
Bordeaux, 20 cs.
Christiania, 4 7 1,316 slbs.
Copenhagen, 10
Danzig, 2 19 pks.
Drontheim, 12 300
Ghent, 1
Gothenburg, 3 10 5
Genoa, 21
Hamburg, 10 50
Konigsberg, 5
Marseilles, 38
Rotterdam, 50 7
Stavanger, 10
Cottonseed Oil—
Amsterdam, 1,671 c.
Antwerp, 1,107
Bordeaux, 70
Christiania, 5
Danzig, 51
Drontheim, 34
Gothenburg, 100
Genoa, 80
Hamburg, 621
Harlingen, 207
Marseilles, 1,542
Naples, 310
Rouen, 17
Rotterdam, 865
Stettin, 543
Dyestuffs (*otherwise undescribed*)
Danzig, 6 cs.
Gothenburg, 20 bgs.
Hamburg, 6 cks.
Glue—
Gothenburg, 20 bgs.
Linseed Oil—
Amsterdam, 102 c.
Antwerp, 114
Bergen, 18
Christiania, 29
Christiansand, 41
Copenhagen 87
Christiansund, 36
Drontheim, 115
Dunkirk, 4
Hamburg, 656
Stavanger, 102
Manure—
Copenhagen, 200 t.
Dunkirk, 739 bgs.
Stettin, 296 t.
Painters' Colours—
Amsterdam, 2 cks. 8 dms.
Antwerp, { 2 / 82 pks. / 21 dms.
Bergen, 7 1 cs. 80
Bremen, 10
Christiania, 2 3
Christiansand, 2 24 pks.
Copenhagen, 5 1 25 dms.
Christiansund, 3 68
Danzig, 5 2
Drontheim, 1 176
Dunkirk, 1 18 pks.
Ghent, 3
Gothenburg, 10 1 40 dms.
Genoa, 6 2
Hamburg, 7 1
Harlingen, 2
Hango, 6 1
Konigsberg, 5
Leghorn, 14
Marseilles, 28
Naples, 29
Rouen, 29
Riga, 2 4 pks.
Rotterdam, { 1 / 30 / 3 dms.
Stockholm, 3
Phosphate—
Genoa, 331 t.
Pitch—
Antwerp, { 292 t. / 32 bgs.
Ghent, 4 cks.
Soap—
Hango, 1 cs.
Tallow—
Amsterdam, 43 cks.
Gothenburg, 1
Tar—
Amsterdam, 11 cks.
Bergen, 1
Christiania, 1
Copenhagen, 7
Danzig, 5
Dunkirk, 3
Hamburg, 24
Rotterdam, 5 brls.
Turpentine—
Antwerp, 25 dms.
Varnish—
Antwerp, 1 cs.
Bordeaux, 2 brls.
Copenhagen, 1 can
Ghent, 3 cks.
Christiania, 1
Dunkirk, 6 tins
Harlingen, 1 ck.
Rotterdam, 6
Whiting—
Antwerp, 10 bgs.
Hamburg, 20

GLASGOW.

Week ending April 14th.

Alum—
M. Video, £20
Ammonium Sulphate—
Mauritius, 20 t. 12 c.
Amsterdam, 101 15
Asbestos—
Canada, £30
Hong Kong, 31
Christiania, £2 19s.
Bleaching Powder—
Calcutta, 30 t. 3 c.
Boracic Acid—
Hiogo, £104
Borax—
Rotterdam, £112
Carbolic Acid—
Chefoo, £40
Chemicals (*otherwise undescribed*)
Canada, £36
Coal Products—
Benzine
Hamburg, 8 t. 8 c.
Rotterdam, £510
Creosote
Drontheim, 2 t.
Creosote Oil
Christiania, £16 10s.
Pitch
Italy, £116
U.S.A., 75
Venice, 1,899
Christiania, 12
Hamburg, 66 t. 11 c.
Tar
Calcutta, £170
U.S.A., 50
Danzig, 506 t. 4 c.
Tar and Pitch
Madras, £51
Dyestuffs (*otherwise undescribed*)
Rotterdam, £25
Extracts—
Hamilton, £328
Toronto, 371
Farina—
Oporto, £94
Gelatine—
Nova Scotia, £73
Iodine—
Rotterdam, £1,300
Lead Acetate—
Canada, £54
Lead Nitrate—
Canada, £36
Manganese—
Rotterdam, £120
Manganese Oxide—
U.S.A., £105
Ochre—
U.S.A., £82
Painters' Colours—
Bombay, qty.
Colombo, "
Hong Kong, £94
Shanghai, 44
Christiania, 8
Rotterdam, 85
Calcutta, "
Cape Town, 259
St. John's, N'fld., "
U.S.A., 366
Paraffin Wax—
Bordeaux, £107
Italy, 185
Amsterdam, 185
Potassium Bichromate—
Hiogo, £172
Italy, 42
Oporto, 70
Yokohama, 180
Antwerp, 129
Potassium Chloride—
Mauritius, £48
Potassium Sulphate—
Mauritius, £38
Soap—
Shanghai, 1 t. 16 c.
St. John's, N'fd., 3 1
Sodium Bichromate—
Antwerp, 1 t. 11¾ c.
Nantes, 5 2
Treacle—
Bergen, 4 t. 2 c.
Christiania, 30

TYNE.

Week ending April 9th.

Alkali—
Hamburg, 5 t. 11 c.
Gothenburg, 5 9
Christiania, 7 16
Riga, 19 cks
Alum—
Rotterdam, 15 t. 2 c.
Antimony—
Hamburg, 1 t.
Rotterdam, 5
Arsenic—
Christiania, 1 t.
Barium Binoxide—
Antwerp, 10 t. 14 c.
Rouen, 10 13
Barium Carbonate—
Hamburg, 70 t.
Riga, 10
Rouen, 25 10 c
Barytes—
Antwerp, 1 t.
Benzoline—
Stavanger, 7 c.
Bleaching Powder—
Antwerp, 108 t. 1 c.
Copenhagen, 4 7
Rotterdam, 28 17
Riga, 52 15
Gothenburg, 30
Christiania, 31 11
Carbolic Acid—
Antwerp, 5 t. 14 c.
Ergasteria, 11
Caustic Soda—
Antwerp, 4 t. 18 c.
Copenhagen, 13 1
Hamburg, 1 14
Rotterdam, 2 18
Riga, 10 12
Gothenburg, 2 18
Litharge—
Christiania, 12 c.
Hamburg, 1 t. 18
Magnesia—
Antwerp, 2 c.
Copenhagen, 5
Hamburg, 2
Paint—
Bergen, 4 c.
Stavanger, 1
Hamburg, 1 t. 10
Rotterdam, 10
Gothenburg, 8
Painters' Colours—
Ergasteria, 11 c.
Soda—
Randers, 35 t.
Antwerp, 4 5 c.
Rotterdam, 20 4
Christiania, 8 1
Soda Ash—
Hamburg, 2 t. 3 c.
Sulphur—
Antwerp, 10 c.
Superphosphates—
Helsingborg, 346 t.
Tallow—
Hamburg, 10 t. 17 c.

GOOLE.

Week ending April 6th.

Chemicals (*otherwise undescribed*)
Amsterdam, 10 cks.
Antwerp, 1
Hamburg, 17
Coal Products (*otherwise undes.*)—
Boulogne, 5 cks. 5 cs. 2 tins
Rotterdam, 50 1
Hamburg, 1 1 dm.
Colours—
Amsterdam, 300 bgs.
Ghent, 1 ck.
Rotterdam, 4 7 cs 10 dms
Dyestuffs (*otherwise undescribed*)
Hamburg, 20 cks. 1 cs.
Manure—
Antwerp 200 bgs.
Dunkirk, 1,142
Ghent, 200
Hamburg, 100
Pitch—
Antwerp, 905 t.
Dunkirk, 165
Soap—
Amsterdam, 1 ck.

GRIMSBY.

Week ending April 9th.

Alkali—
Antwerp, { 2 cks. / 6 kgs.
Hamburg, 15 cs.
Ammonium Sulphate—
Hamburg, 300 bgs.
Chemicals (*otherwise undescribed*)
Antwerp, 10 kgs.
Malmo, 6 cks.
Coal Products (*otherwise undes.*)—
Dieppe, 30 cks.
Colours—
Antwerp, { 2 kgs. / 8 cks. 36 pks.
Hamburg, 1
Rotterdam, { 5 / 3 kgs.

PRICES CURRENT.

WEDNESDAY, April 20th, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. *at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary*

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	5/6	&	8/6
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	2½
Arsenic, white powdered	nett per ton	18	15	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	8	15	0
„ „ (grey) Hull	„	8	15	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	7	0	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	10½
„ 50/90 „	„	0	1	0
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97 %)	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	5½
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	0	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	4½
Copper	per ton	52	0	0
„ Sulphate	„	16	5	0
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	22	10	0
„ (distilled S.G. 1250°)	„	38	10	0
Iodine	nett, per oz.	0	0	7¼
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	14	0	0
„ Litharge Flake (ex ship)	„	16	0	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
„ „ (grey) (ex ship	„	7	10	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	5	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	8
Oils :—				
Cotton-seed	per ton	16	0	0
Linseed	„	17	10	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	10	0
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	1 1/16
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	11	17	6
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3¾
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „ (10 ton lots)		8	0	0
„ „ (70 % Caustic Soda) „ „ „ (10 ton lots)		7	2	6
„ „ (60 % Caustic Soda) „ „ „ (10 ton lots)		6	2	6
„ „ (pure liquor 90° Tw.) „ „ „ (10 ton lots)		3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	19	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5½
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone : Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	67	15	0
Zinc (Spelter)	„	18	15	0
„ Chloride (solution, 100° Tw.)		5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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AND

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ements intended for insertion in the current week's issue ch the office by **Thursday morning** at the latest.

THE ANALYSIS OF FERTILIZERS.

THE constant grumble of the farmer at his hard lot is ever with us, and, as far as we can see, so is his never-failing apathy.

Contrary to the way of business people, the harder times become the less care farmers seem to take to protect themselves, and make sure that they get full value for their money.

The record of petty deception to be found in Dr. Voelcker's annual report to the Royal Agricultural Society is as instructive and convincing as ever. The value of a name is not much in buying fertilizers. As an instance, take "basic" slag. Some farmers do not even take the trouble to ask for it, and in consequence have been supplied with a number of comparatively useless articles sold under the generic title of "slag." Even if "basic" slag were insisted upon, only an analysis could reveal whether the purchaser had obtained his due.

The truth of this last statement is emphasised by the experience of one farmer with so-called pure bones. Presumably, he knew what he wanted, and asked for it, and the bones were supplied as being "neither steamed nor boiled." He took the precaution, however, of having an analysis made, and found that he was buying 1·7 per cent. of ammonia at a price which ought to command 4½ to 5 per cent. When tackled, the vendor admitted that the "neither steamed nor boiled" bones *had* been steamed, and he was left with the material on his hands, to the benefit of the farmer.

With regard to feeding stuffs, the importance of checking by analysis is even greater, as there are so many ways in which substitution can be practised.

Under the term "linseed meal," ground cake has been sold, and as far as the title is concerned, it certainly is a "meal," and also "linseed" meal; but as it contains 6 to 7 per cent. of oil instead of 30 to 35 per cent., it very certainly is not a "meal" of linseed to the cattle that feed upon it. Here again the name is worthless as a guide or protection. Analysis is essential to avoid deception.

A new adulterant has made its appearance in the shape of coffee husk or "parchment." This is a product with which we have had special acquaintance, and judged as an adulterant *per se* it is a good one—for the vendor; but as a feeding ingredient we cannot countenance it.

There is a close analogy between coffee and milk, but it is hardly strong enough to justify the introduction of coffee-berry husks into feeding cakes for cows. The idea is a little too previous.

A much more legitimate outlet for this product, and one that is worthy the attention of the trade, would be its use as a "drier" in the manufacture of superphosphates, where its presence would be mildly beneficial, apart from its drying properties.

Now it is evident from the foregoing, that analysis is the

only means by which farmers can make any use of the Fertilisers and Feeding Stuffs Act of 1893. These analyses are made by the special chemists appointed under the Act, and the use of "official" analyses is often of the greatest importance in checking the value of external analyses, which during the past year have been proved to be rather misleading in regard to guanos.

These "official" tests can be obtained through the various County Councils where the Act is in force, and yet, during 1897 there has practically been no increase in the number of samples submitted for analysis.

In Great Britain there are 56 counties reporting analyses, through whose agenc, 836 samples have been tested, as compared with 54 counties in 1896, testing 797 samples. After making allowance for the proportional increment in the number of analyses, due to the increased number of counties working under the Act, there is only an advance of 10 samples upon the figures for 1896. In contrast with this paltry increase we have the results for 1895 and 1896. In both these years there were exactly the same number of counties reporting, and yet in 1896 the samples tested had increased numerically by 182; so that last year, when the needs for analytical checks were more pressing, and the facilities greater, the increase was 10—and 10 only. Why this enormous falling off? Truly, farmers seem to stand in far greater need of self-reliance and business "go" than such artificial aids as Pure Beer Committees, marked meat, and barley bounties.

SOME ELECTROLYTIC PROCESSES FOR THE MANUFACTURE OF WHITE LEAD.

[By Sherard Cowper-Coles.]

(*Specially Contributed.*)

UP to the present, the old Dutch process of making carbonate of lead has held its own, and it is still the impression that the lead produced by this process is the best as regards its covering capacity; such was the finding of the Committee appointed by Government to investigate the dangers attending the manufacture of white lead. Carbonate of lead, manufactured by a wet or electrolytic process, is found to be more or less crystalline, and has not the same covering power as white lead manufactured by a dry process.

The ancient and long tried Dutch method of making white lead, and its tediousness and danger to health have been freely dealt with in these columns from time to time.

To overcome these difficulties, many methods have been devised, including the following electrolytic processes.

In the first process, we shall consider the lead is cast into thin sheets about 20 ins. by 15 ins. weighing between 2 and 3 lbs. each. These sheets are then corrugated and packed in crates with plates of coke or carbon which form the negative electrodes. Strips of tin make the connection between the lead or electro-positive plate and the carbon electrode, the object being that when subjected to warm vapours of acetic acid, carbonic acid and atmospheric air, electrical motion is set up between the two, which hastens the corrosion and reduces the time required to convert the plates into carbonate of lead from the 10 to 15 weeks as required by the Dutch process, to 5 weeks. The corroded plates are then subjected to the same treatment as in the Dutch process.

Another electrolytic process consists in electrolysing a ten per cent solution of sodium nitrate in a wooden cell, provided with a porous diaphragm, the anode being made of pig lead and the cathode of copper. In the former compartment, the lead dissolves as nitrate, whilst round the cathode caustic soda is produced. The two solutions being drawn off and mixed, alkaline nitrate is regenerated and the lead precipitated as hydrate. The hydrate is finally treated with sodium carbonate or bicarbonate to convert it into white lead. The caustic soda formed as a bye-p oduct in the latter operation has only to be re-carbonated to be available again.

A somewhat similar process patented by Mr. Browne is carried out by placing metallic lead in a suitable vessel, in electric connection with the positive pole, in the presence of a solution of an acetate or a nitrate of an alkali base. A soluble salt of lead is formed on the anode, and a solution of caustic alkali at the cathode. In consequence of the flow of the electrolyte against the cathode, these two solutions intermix, with the result that lead hydrate is precipitated, the original alkaline being regenerated. The solution containing the lead hydroxid suspension is then run into a settling-tank, from which the solution is subsequently drawn off, to be used again as the electro while the lead hydrate is finally exposed to the air or to an atmosp of carbonic acid gas to convert it into hydrated carbonate of lead.

It is to be observed that in reality electrolysis plays but little pa this process, as the mixture of lead carbonate and hydrate of w white lead consists is obtained purely by chemical means.

Another process, patented in America, consists in passing an ele current from an anode of metallic lead through an alkaline elect (consisting of a solution of a salt of ammonia in combination with acid, such as acetic, which will produce a soluble lead salt, incl also sulphuric acid; and of a bicarbonate of an alkali) to a catho lead, carbon, or other suitable material, thereby causing a decom tion of the salts in the electrolyte, and the formation of a so compound of lead, which is transformed into hydrated carbonate of by the simultaneous generation of free carbonic acid gas at the a by the presence of caustic alkali (ammonia) generated at the cat A current of carbonic acid gas is passed through the electrolyte t generate the spent alkaline carbonate until the anode is comp dissolved. Both the acetate and bicarbonate of soda are contin regenerated, the process consuming only lead, carbonic acid gas, water.

An English process, which has lately been protected, consists i composing acetate of ammonia by electrolysis, lead anodes being which are separated by porous diaphragms, which are made prefera stout Willesden paper, which are insulated from the bottom to pr irregular electrolytic action in the electrolyser. A lead soluti produced, and caustic alkali, when on mixing the two solutions lead is precipitated. When a series of cells are used the exit ope at the bottom are closed by elastic bags, which are distended b fluid within.

In another process, patented in Germany, lead anodes 3 mm thickness are employed for the electrolysis of a solution conta 300 cc. nitric acid and 2,000 cc. of water. The lead salt form precipitated as white lead, and gives off a stream of carbonic acid any silver contained in the lead is deposited on the cathode, and be recovered.

Parliamentary Jottings.

LEAD POISONING.

In the House of Commons, last week, the Home Secretary, rep to Mr. Coghill, promised to appoint a committee of experts to test report upon the various glazes used in the manufacture of china earthenware, with the object of preventing the evils which at pre arise from the use of lead.

ANSWERS TO CORRESPONDENTS.

G. L.—We have done so.

R. T. and R.—Index will be given with next issue.

U. A. Co.—We have to confine ourselves to the one thing at present.

S. B.—The matter you mention has received our attention for some time past the position of affairs hardly warrants the departure as yet.

Siderosthen Paint.—This is the name given to a natural chem compound, forming a jet black enamel-like paint, for covering iron steel work of all kinds. It is absolutely rust-proof and rust-preven It may be used upon old and rusted iron and steel work without ch ing off the old rust, but loose scale must of course be removed. It absorb and destroy the old rust, penetrate to the metal, and de thereon a firm, hard, but very elastic coating, which does not from the expansion of metal structures under the influence of va temperatures. It is not affected by the action of chlorine, smoke, or steam.

Down on American Petroleum.—The Prussian Ministers Interior, Commerce and Education, have ordered the prov governors to make an inquiry into and report on American petro regarding its illuminating power and danger of explosion. ministerial circular says that numerous brands of petroleum, exclu of American origin, although up to the legal flash test, we insufficient illuminating power, and objectionable also on acco explosiveness. Considerations of sanitary police seemed to recom the extension of Government supervision to the illuminating pow petroleum, because insufficient illuminating power, or too high a gealing point, injures the eyesight, and might be the cause of acci The governors are asked whether it would not be advisab investigate petroleum by fractional distillation and to determin congealing point, so as to offer to the public a guarantee for the quality of the petroleum.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Electro-deposition of Metals. H. W. Wright. 8,489. April 12.
New Pigment or Paint A G. Brookes. 8,502. April 12.
Improvements in Dryers. B. J. B. Mills. 8 533. April 12.
Manufacture of Calcium Carbide. E. Tooth. 8,554. April 12.
Manufacture of Aluminium Oxide or Hydrate F. Forti. 8.557. April 12.
Roasting Oven for Sulphur Ores. W. P. Thompson. 8.570. April 12.
Treating Blast Furnace Slag. J. J. Lish. 8.583. April 13
Electro Carbide, etc., Furnaces. P. Determes. 8,635. April 13.
Treating Sulphide Ores. S. O. Cowper-Coles. 8,641. April 13.
Benzol Extraction Still. W. Irwin. 8,665. April 13.
Treating Sewage. J. J. Edmondson. 8,695. April 14.
Deodourizing and Air-proofing Calcium Carbide. H Sez. 8 756. April 15.
Coating Metals with Vitreous Enamel. C. A. Fuge. 8,767. April 15.
Improved Soap. N. A. Jamieson 8,784. April 15.
Manufacture of Gas. W. I. Wise. 8,813. April 15
Destructive Distillation of Coal. W. Young, W. R. Herring, and A. Pell. 8,873 April 16.
Fire Extinguishers. F. H. Cheesewright. 8,921. April 16.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements in Apparatus for Consuming Black Smoke. H. Lee, 9, David-street, Bradford, Manchester. Eng. Pat. 10,837. May 1 1897.

Two tubes pass through the fire bridge of the boiler furnace at an angle of 65 degrees, the ends facing the ashpit being closed by dampers, worked by a lever from the front of the boiler. Air heated by passing under the fire bars can then be admitted in any desired quantity to the back of the bridge, the tubes being so set that the air is supplied at a point four or five inches below the level of the bridge. Ignition of the gases can thus be regulated to prevent the emission of black smoke. There are three figures.

Improvements in the Treatment of Steam Boilers, with Solid Anti-incrustation Material. W. J. Tranter, Workhouse-lane, and O. Howl, Tipton Engineering Works, both of Tipton, Staffs. Eng. Pat. 11,172. May 5, 1897.

A box or vase containing a block of anti-incrustant is placed above or near the boiler, to which it is connected by a pipe. Steam passes from the boiler to the vase, surrounds and dissolves away part of the block, and then the condensed steam flows to the feed pump, to be re-introduced into the boiler, carrying the disincrustant with it. Steam can be cut off from the box or vase, by a valve, whenever desired. The box is also provided with a steam-tight, movable lid, so that the blocks can easily be replenished. There is one figure.

Improvements in and Apparatus for the Manufacture of Cement. T. Holden and C. Major, both of Bridgwater, Somerset. Eng. Pat. 18,779. August 13, 1897.

This is a modification of Patent 20,670/97 (*C. T. J.*, 570, p. 283). A number of vertical perforated tubes are fixed in the central area of the kiln. The materials are packed in layers with fuel while damp, without any previous drying. The moisture partly passes up through the layers, assisting the disintegration of the lime, and the excess finds its way through the perforations into the pipes and escapes. There is a plan view and vertical section of the k ln when packed.

Improvements in the Manufacture of Hydrochloric Acid, free from Arsenic. J. R. Wylde, J. W. Kynaston, and the United Alkali Co., Ltd., all of Gee, Exchange buildings, Liverpool. Eng. Pat. 11,353. May 6, 1897.

The "roaster gas" is cooled by being passed through pipes and then put through a tower packed with coke, and called a "dry tower" to distinguish it from the usual wet coke condensers. The cooled gases contain hydrochloric acid gas, arsenic, sulphurous and sulphuric acid, and some steam. The last three condense as an acid liquor in the "dry tower," moistening the coke, which then retains the arsenic, leaving pure hydrochloric acid gas to pass on to the usual coke condensers. The removal of the arsenic is complete if the temperature in the "dry tower" is low enough. It should not exceed 55° C. at any time.

An Improved Manufacture of Glue. R. Brauer, Lüneburg, Brunswick, Germany. Eng. Pat. 2,400. January 29, 1898.

The object is to obtain the glue as a fine powder, on account of the greater convenience in transport and the like. The broth of glue, obtained in the usual manner, is run into flat casings of metal, porcelain, etc., and these are transferred to a vacuum drying stove. In five to six hours the glue will be dry, and, having been dried under a constant vacuum, is in a porous state like dry spume, so that it is readily reduced to a fine powder by a disintegrator or other grinding mill. The product is ready for packing at once.

THE ANALYTICAL METHODS OF RIVER POLLUTION BOARDS.

IN the face of the recent prolonged, not to say heated, discussion upon the methods of analysing sewage and effluents as practised by the chemist to the Mersey and Irwell Joint Committee and outside analysts, it is with great pleasure we welcome the publication of the methods that are employed by the sister body—the Ribble Joint Committee. This spontaneous action, following as it does so closely upon the poignant complaints against the attitude of the Mersey and Irwell body, reflects no little credit upon the wisdom and candour of the Ribble Board and their officials Their prompt appreciation of the complaints made by outsiders (although not laid at their own door); their quickness in discerning how much was grain and how much chaff; and their consequent publication of methods, will, we feel sure, inspire with confidence, and win the respect of all in the Ribble watershed and many outside it.

THE METHODS.

METHOD OF ESTIMATING ALBUMENOID AMMONIA.

Amount of sample taken for examination, 50 cubic centimetres. This is diluted with 750 cc. of water free from organic matter. About two grams of pure carbonate of soda are added, and the distillation proceeded with in a retort or flask having a capacity of 60 oz. until all free ammonia is off and 50 cc. of the distillate give no colouration with Nessler test. To the contents of the retort are now added 50 cc. of alkaline permanganate solution (Wanklyn's strength), which has immediately before been diluted with water free from organic matter and boiled in a retort until 50 cc. of the distillate has produced no colouration with Nessler test. 200 cc. of distillate are then obtained as briskly as possible, and 50 cc of this Nesslerised in the usual manner. All standard solutions according to Wanklyn.

METHOD OF ESTIMATING OXYGEN ABSORBED.

Standard solutions required:—Sulphuric acid solution, 1 part by volume of pure sulphuric acid and 3 parts of distilled water. Permanganate of potash solution is added until a faint tinge remains for some hours.—Permanganate solution, ·395 grams per litre pure crystallized permanganate of potash.—Ferrous sulphate solution, about 3·6 grams per litre.

Process:—Take 70 cc. of the sample, undiluted, in an eight ounce stoppered bottle, add 10 cc. of sulphuric acid solution and 50 cc. permanganate solution. Allow to stand for four hours at a temperature of 80° F. If during this period the permanganate colour is much faded another 50 cc of permanganate is added so as to always have an excess of permanganate present. At the end of four hours the permanganate absorbed is estimated by adding ferrous sulphate solution equal to 50 cc. permanganate, titrating back the excess of ferrous sulphate with permanganate, the ferrous sulphate solution being standardized by a blank experiment made with 70 cc. distilled water, 10 cc. sulphuric acid, and 50 cc. ferrous sulphate solution.

The three minutes' test is determined by adding 50 cc. permanganate solution and 10 cc. sulphuric acid solution to 70 cc. of the sample, the tritration being conducted after three minutes as above.

METHOD OF ESTIMATING SOLIDS IN MANUFACTURERS' EFFLUENTS.

50 cc. of the sample after filtration through paper are evaporated to dryness, and the residue maintained at a temperature of about 120° C. until the weight is constant. 50 cc. of the sample unfiltered are treated similarly, and the difference between the two weighings is taken as suspended matter. In cases where there is a probability of calcium chloride being present largely, the suspended matter is estimated on the filter paper also, and the platinum dish weighed in a special cover glass made to fit.

NITROGEN AS NITRATES AND NITRITES.

Harrow's method. N.B.—In all cases the bottles containing the samples are well shaken before portions used for examination are abstracted.

SOCIETY OF CHEMICAL INDUSTRY: *London Section.*—The next meeting will be held in the Chemical Society's rooms, Burlington House, on Monday, May 2nd, 1898, at 8 p.m. Business:—The following paper will be read: "Self-intensive Refrigeration of Gases, Liquid Air, and Oxygen," by Dr. W. Hampson.

Legal Intelligence.

HIGH COURT OF JUSTICE (IRELAND).

CHANCERY DIVISION.

(*Before the Master of the Rolls.*)

T. G. WEBB *v.* KYNOCH AND CO., LTD.

THE Master of the Rolls, in delivering his deferred judgment on this case, last week, said :—This action is brought for alleged infringement by defendants of plaintiff's patent No. 2,343, 1891, for an improvement in apparatus for concentrating sulphuric acid. For various industrial purposes, including the manufacture of explosives, the dilute acid is not sufficiently strong, while the well-known affinity of sulphuric acid for water rendered the separation difficult. The process of boiling down can be carried on in an ordinary vessel, whether an open cauldron or retort, made of suitable material—such as glass, porcelain, or platinum ; but this could only be done with a large expenditure of time and fuel. Therefore, many endeavours were made to render the process more expeditious and economical. Plaintiff claims to have done this by means of his particular process ; and one of the questions —in fact, the main question—in the case is whether his patent is valid or not, for the evidence has left no doubt in my mind that his process, as compared with any other, effects a considerable saving in expense and time, which is the same thing. The provisional specification under plaintiff's patent is dated 9th of February, 1891, and the final specification is dated 5th of May, 1891. In the latter, that which is claimed is an improvement in apparatus "for concentrating sulphuric acid, and consisting of a series of glass vessels placed on steps in a heating chamber, each of these vessels being provided with an overflow spout, and having placed in it a glass tube reaching down to its bottom from the spout of the next higher vessel, arranged and operating substantially as herein described." The operation as described is as follows :—"The space in front of the wall" (I leave out the letters in reference to the document) "is covered by slabs arranged in steps, and in each step is placed a deep cylindrical glass vessel, formed with a projecting lip, forming an overflow spout at its upper edge. In each of these vessels is loosely placed at an angle a tapered glass tube reaching down to its bottom from the spout of the next higher vessel, the lower end of this tube having an outlet-slit along its side. Around the vessels, near to their upper edges, is formed a floor, which may be of iron plate, made sloping as shown, or it might be made in steps corresponding with the slabs. Passages are made, for the hot products of combustion, from the chamber into the space under the floor occupied by the vessels ; and passages for the products of combustion are made from that space to the back chamber, whence a flue leads to a chimney. Above the tops of the vessels there is a roof, and from the space under it, pipes served to carry off fumes. At the upper end of this slope is a tank containing the weak acid that has to be concentrated, and at the lower end of the slope is a tank to receive the concentrated acid. Hot products of combustion from the chamber circulate under the tank, and descend a flue leading to a chimney. The apparatus is worked in the following manner :—The hot products of combustion from the fires pass into the chambers, and, issuing thence by the passages, circulate around the vessels heating them, and finally flow away by the passages to the chimney flue. Weak sulphuric acid supplied from the tank (where it is somewhat heated) flows into the tapered tube of the highest vessel, and is conducted by the tube to the bottom of the vessel, causing overflow by the spout of the vessel into the taper tube of the next lower vessel, and thus the acid flows from vessel to vessel, becoming more and more concentrated, until finally it overflows from the lowest of the vessels into the receiving tank. The vapour and fumes evolved pass away by the pipes. By arranging the overflow from each of the vessels to descend by a tube to the bottom of the next vessel I insure that all portions of the liquid are subjected to heating while they reascend to overflow again. If the weak acid simply overflowed from one vessel to the next without being forced to descend, it would, owing to its comparative lightness, be apt to flow merely across the upper part of the vessel ; whereas, by conducting it down to the bottom, it displaces a portion of the liquid above it, causing overflow of that which has been heated while ascending from the bottom."

"The numbers and dimensions of the vessels may obviously be varied, and a single fire or more than two fires or gas burners might be used for heating them, these appliances being arranged in any convenient manner to give an approximately uniform heat through the chamber containing the vessels, without any openings which might allow cold air to strike against the glass."

It will be observed that no particular part of this system is claimed as novel. The arrangement of connected glass vessels on steps one higher than the other is not said to be new, nor the heating of them by means of a flue having access to them all, nor the particular form and material of the vessels themselves, nor even the circumstance that by means of movable tubes the liquor is drawn from the top of one vessel to the bottom of the next. What really is claimed is the combination. The details are not new. It is the whole which is alleged to be new. The acid which enters the top series of beakers just as it comes from the manufacturers, passes by means of overflow spouts through the whole series of beakers, the overflow being in each case the least dense portion which there passes to the next beaker and then mixes with the densest portion of the beaker into which it is introduced and gradually rises to the surface where the watery portion is driven off in steam and the rest passed on to the next vessel. The result is then the acid enters the top vessel in a weak state and gradually is transformed into the strong state by the time it reaches the lowest vessel, with, it is claimed, the minimum expenditure of fuel. The upper and open part of the beaker is free from contamination so that the acid runs off below clean and clear, and the fumes of the vapour are conducted to the condenser. Another important advantage is claimed for the apparatus, namely, that the fragile parts (the beakers and tubes) are not likely to break from the heat if proper care be used, while if they do break they are easily accessible from the top through a covering, consisting of separate slabs of earthenware, one of which can be removed without displacing the others, and then a new beaker or tube introduced without stopping the process and without any risk. Having regard to the fact that the temperature of the sulphuric acid is at least 600 degrees Fahrenheit, the importance of this is obvious. Several of these arrangements are not claimed for nor covered by the patent. Plaintiff's system has been in extensive use in many parts of the world for several years, and he has been in receipt of large sums for royalties in addition to the profits in supplying the apparatus Defendants are a Limited Company, having a factory for the manufacture of Cordite and other explosives at Arklow, and it is important for them to be in a position to condense their own sulphuric acid at their own works instead of buying it. Apparently, Mr. Cocking, their Managing Director, had communications verbal and written with Mr. Webb in reference to this process, and in Birmingham, Mr. Webb in February, 1895, showed him specimens of his beakers and tubes and explained fully the working of his patent. Mr. Cocking denied that the explanation was full and complete, but I entertain no doubt whatever that Mr. Webb was right in what he stated. His evidence was clear and to the point, and the circumstances and objects of the meeting prove it. Negotiations ensued as to the erection by Webb of his apparatus, pending which defendants consulted Mr. Clarke, who was one of their own directors (and also acted for them as agent for patents and made a profit on it), and they obtained from him an opinion that plaintiff's patent was bad for want of novelty. Webb had shown a copy of proceedings in Germany against one Levenstein in which a decree was given declaring his patent good, but of course a patent may be valid in Germany and invalid in this country, and the German decree did not bind defendants.

The opinion of Mr. Clarke was used in order to induce Webb to forego his claim of £300. for royalty, and merely charge for the machinery itself. This he declined to do, and so the matter rested. In December, 1895, in consequence of something plaintiff had heard leading him to suspect the use by defendants of a process identical with his, he made inquiries, and was told that defendants had employed a man named Bradbury, who had been a servant of plaintiff, and was familiar with his process, to put up a condensing system which as constructed I have no doubt was in reality Webb's. The beakers and tubes were procured from Levenstein, the unsuccessful plaintiff in the German litigation, and differed from plaintiff's just in name. The beakers were smaller, and their rounded bottoms were resting on sand. The process was neither peculiar nor new, and was one which plaintiff frequently used, though it was not specified in the patent ; but beyond all question it was Webb's apparatus that defendants put up, as no doubt they had a perfect right to do if plaintiff's patent was invalid. There was a good deal of discussion about this part of the case, into which I am not prepared to enter. Defendants' conduct was characterised by a want of candour indicating that they were not at all sure of their position, and thought it safest not to put facilities in the way of plaintiff in his efforts to ascertain what had been done in reference to the condenser. What occurred was that the machinery erected by Bradbury would not work ; it was faultily constructed, or badly handled, or both. The glass beakers were constantly breaking, causing expense, loss, and delay, and the whole thing worked unsatisfactorily. The difference in temperature between the hot chamber, in which the beakers sat, and the upper chamber was probably too great, causing unequal expansion of the glass or porcelain ; and I may here mention the plaintiff uses both glass and porcelain vessels. No reliance was placed on the fact that the specification mentioned glass, not porcelain, and properly so, because the materials are similar, and the vitreous glaze on the surface of the porcelain is the result of superficial vitrefaction. Defendants at last removed the iron flooring separating the two chambers, thus leaving the whole of the apparatus in the hot chamber, giving the smoke and other products of combustion unrestricted access to the acid, thus no doubt getting rid of the old inequality of the temperature. It is amusing to find this variation of a most useful appliance claimed as a novelty by defendants ; but the flooring removed is not claimed by

plaintiff as the subject of his patent, and is not detailed, though it is of much service for anyone who wishes to have clean acid. The circulation of impurities is prevented by asbestos collars in close proximity to the iron flooring through which the vessels pass, though it seems to me tolerably clear that this does not make the separation perfectly air-tight, a circumstance which has a bearing on the question whether the acid is concentrated by boiling only or by evaporation. No doubt if the upper chamber were air-tight there would not be any air evaporation once the air above were saturated by the vapour from the beakers; but if the supply of hot air was perpetually renewed there would be no reason why evaporation would not go on from the exposed surface of the vessels. The evidence has satisfied me that the apparatus as at first used by defendants was an almost exact counterpart of the plaintiff's, and that as afterwards modified by taking out the iron flooring it remains in all essentials the same. If, then, the plaintiff's patent is valid he is entitled to succeed in this action, and this is the real question in the case. He would be entitled to succeed if the structure as at first put up was a violation of the plaintiff's patent, even if it were subsequently altered in such a way as not to be a violation. The ground of impeachment is want of novelty, and is founded on the publication of processes alleged to be practically identical in prior patents The first of these is that of Henry Chance, of 1871, number 1,243, and it is also by far the most important for the present case, and will demand more detailed consideration than any of the others. Chance's invention is entitled "Improvement in retorts or apparatus for concentrating sulphuric acid and for other like purposes." The specification describes the invention as follows—I am quoting from the final specification:—"In the ordinary method of concentrating sulphuric acid the dilute acid is heated in a series of glass retorts unconnected with each other. The evaporation of the water takes place in each retort independently of the others, the concentration of the portions of dilute acid put into the several retorts being commenced, continued, and finished in the said retorts respectively. According to this invention the retorts or apparatus are, or is, so arranged that the concentration of the dilute acid is made a continuous process, the dilute acid entering at one end of the apparatus being concentrated as it passes through the apparatus, and passing out from the other end of the apparatus in a concentrated state. The retorts or apparatus are, or is, concentrated and arranged in the following manner:—Each retort consists of a globular or other shaped vessel, having at its top an opening from which the vapour of water passes out. A second opening is situated near the first, in which second opening a funnel is fixed, the pipe of which funnel extends nearly to the bottom of the retort, and delivers any liquid poured into it at or near the bottom of the retort. Each retort has also a horizontal pipe near its top, by which pipe the acid contained in it passes out, when the level of the acid rises to or above the level of the said pipe. These retorts are situated in an inclined flue, the respective levels of the retorts being such that the acid of the highest retort runs from its horizontal pipe into the funnel of the retort next below it, and so on with respect to the others. The heated air and products of combustion from a furnace situated at the bottom of the said flue pass up the said flue and heat the series of retorts, the lowest retorts being situated at the hottest part of the said flue, and the top retort at the least heated part of the flue. The dilute acid to be concentrated is delivered in a continuous gentle stream into the top retort where it undergoes a partial concentration; from the top retort the said acid passes in a continuous gentle stream to the second retort, where it is exposed to a higher temperature than it was in the first retort, and undergoes therein a further concentration, and so on with respect to the other retorts. By this arrangement the acid undergoes a concentration in each retort, and passes out from the lowest and hottest retort in a concentrated state. The vapours escaping from the openings at the tops of the retorts may be collected in the usual manner." It then refers to the figures (I will not do so *in extenso*) from the top of page 5 to line 24. "The retorts," again he says, "are supported in the hot chambers in pans or dishes of iron, the said pans or dishes containing sand in which the bottoms of the retorts are imbedded. The top of the hot-air chamber is closed by rings. In connection with the hot-air chamber is a flue, into which, in case of breaking of one of the retorts, the acid passes, and is conveyed therefrom by the tube into a receptacle. The course of the flame and heated air, from the furnace to the flue, is indicated by arrows in figure 6. The flame and heated air are prevented from striking directly against the sides of the retorts by means of deflectors between the furnaces and the hot-air chambers. The funnels by which the acid is conducted to the bottoms of the retorts, and the tubules by which the acid from a retort into that next below it, are marked as indicated in the plans"; and at page 7 the claim is stated thus:—"Having now described the nature of the said invention and in what manner the same is to be performed, I wish it to be understood that I do not limit myself to the precise details herein described, as the same may be varied without departing from the nature of the said invention, but I claim as the invention of improvements in retorts or apparatus for concentrating sulphuric acid and for other like purposes, constructing and arranging the parts of the said retorts or apparatus substantially as hereinbefore described and illustrated in the accompanying drawings, whereby the concentration of the dilute acid or other liquid is made a continuous process by causing the acid or other liquid, as its concentration progresses, to pass through a series of connected retorts or vessels, the dilute acid or liquid entering in a stream at one end of the apparatus, being concentrated as it passes through the said apparatus, and passing out of the said apparatus in a concentrated state." Thus stated fully is the invention of Chance. Still, some points of distinction at once present themselves between the specification and the accompanying drawing and the plaintiff's. Chance's vessels are shown in the drawings to be fewer in number and larger in size than the plaintiff's. That is merely, of course, a detail. Chance's would have covered twenty retorts of quarter of the size. No number and no particular size is specified. As between plaintiff and defendant the size of the vessels is not material, so it is between Chance and plaintiff. Much more important is the construction of the vessels. Chance calls them retorts or apparatus, and again retorts or vessels, but the drawings show that they have open mouths or tops on which pipes are connected, these pipes serving to carry off the vapours and fumes to the condenser. Each of these retorts is heated by a separate furnace. It appears from the evidence that in some cases at least there is a glass lid covering over the retorts, but this is not to be gathered from the specification, and may be regarded as non-essential. But the most interesting and important feature of Chance's apparatus is those movable tubes for conducting the acid from one retort to another. In the drawings, figure 2, this is shown in a manner which does not correspond with the actual user. The acid from the top of the upper retort passes through a tubule in the side, and through a glass connector to an opening in the side of the next lower retort, and so on to the end. If this were all, the surface acid from the first would simply pass on to the surface of the next lower one and so on, but in the opening of the second vessel there is inserted a tube which goes nearly to the bottom, so that the surface acid from the first is passed to the bottom of the second, thus insuring a complete blending, which is an improvement of great novelty and utility. The drawings show the funnel as having a vertical position, and represent it, as it is described, as fixed in its opening. Such funnels were in use a long time ago, and they are described as ground like the stopper of a vessel and only to be removed by lifting out vertically. This is what the drawing shows, and this precise construction is not specified, and I am satisfied that for a great many years at least the funnels or tubes have been made and used substantially as in the retort produced here in Court. Those funnels or tubes passing through a hole in the side, and not being in any sense fixed, are free and capable of being moved at almost any angle as required. In Chance's apparatus the fumes from the heated retort are conveyed away by a pipe or connector; they are not fastened to the retort, but laid on to them, or even suspended over them. It was suggested that the result of this might be the escape of acid fumes into the apartment in which the apparatus is, thus rendering it difficult for working men to live there, and in case of accidental breakage, which may be of relatively frequent occurrence, it must be stopped until the whole system was cooled down and the mischief repaired. In answer to this it was said that under normal conditions, this does not occur because the condensation of the vapours has the effect of producing an indraught on to the point of junction instead of escaping from within, and no doubt in the evidence of practical user this would appear to be so. In case of accidental breakage of the retort it is claimed that the use of a form of glass covering for the tube obviates the difficulty, and repairs can be speedily effected by an ingress which can be arranged. I have no doubt in the evidence that Chance's retorts are much more liable to breakage than the plaintiff's beakers, and when broken are much more difficult to be replaced and started again. No doubt the connectors of the tubes when broken may be replaced with comparative ease, but the retorts themselves are liable to exceptional risks; the tubules are portions of them drawn out in the process of manufacture. The holes in which the tubules fit are also made in a sort of flask; both must have some considerable thickening of material, in other words inequality producing difference in expansion under heat, and consequent risk of fracture. The upper and largest part of the retort is exposed, not in the hot chamber but in an open place, causing special risk of breaking by the dropping of condensed vapours, mainly in the form of cold water, upon the heated surface of the retort. When a retort is broken from any of these causes the process must be stopped for a long time, and re-adjustment is a matter attended with much greater difficulty and cost than in the case of plaintiff's process.

Next in order of patents is that of William Garroway. This plan was an alternative, including a series of open vessels or beakers connected by glass syphons, or one without syphons but discharging by a projecting spout from the top of the next, and so on. The idea of syphons is a pretty one but does not work. To start such a system might be easy enough when the acid is cold, but the difficulty of working it in case of breakage when the acid is hot is insurmountable. Garroway had no idea of the advantage to be derived from taking the acid from the top

of one beaker and conveying it to the bottom of the next, or if he had the idea he did not adopt it. This might, it occurs to me, be done by using a syphon with one short and one long leg, but his specification does not suggest this The alternative arrangement of Garroway by simple overflow is, of course, deficient in respect of blending the light liquor from the top of one vessel going directly to the top of the next, and so on. The mode of drawing off the liquid from the lowest beaker is not clearly shown, and it appears that Garroway's patent has never been worked. There remains one—that of George Veitch, of 1889. It consists of a series of small, flat-bottomed retorts, connected with each other by lips or spouts without any movable tubule. What is claimed are improvements in the concentration of sulphuric acid, and the employment therefore of a series of flat-bottomed retorts, made preferably of hard Bohemian glass or best English-made glassware, mounted in a line upon a stepped terrace, and so forth. I need not dwell upon either Garroway's or Veitch's plan. Like Chance they have, as plaintiff also has, as described, the feature of an inclined plane or stepped terrace with vessels discharging into each other, but this is from the top of each vessel to the top of the next, or from bottom to bottom, and not from the top of one vessel to the bottom of the next. Veitch's patent, like Garroway's, does not appear to have been worked by anyone. That Chance's apparatus does work is clearly proved by the evidence of Mr. France, manager of the Oldbury Chemical Works, which are owned by Chance. Mr. France said they had got the apparatus all over their works, and said that in the installation only fourteen were broken in three years. Of course this does not refer to connecting tubes. It was also stated that about two hours was the time required to replace a broken retort. It was also said, however, that if one of Webb's beakers was broken, it takes from two or three hours to replace it. This was founded, however, on a misconception of the mode in which the covering of Webb's apparatus is removed, at least when the coverings are properly applied. Mr. Mooney, of Morgan Mooney, Dublin, has, since 1891, had Chance's process in use, and considers it a practical and commercial success, but he is unable to obtain from it results such as are shown to be produced by Webb's. At the same time it should be noted, and this is a matter of great practical moment, that in Chance's process the acid has to be heated and partially condensed before being introduced into the installation. This is done by heating over leaden pans in which the concentration goes to the highest point at which concentrated acid can be used without acting on the lead. This is a separate and additional process, and attended with delay and expense. In plaintiff's process this is avoided, the dilute acid being introduced direct into the highest beaker and coming off concentrated in the lowest. Defendants gave no evidence of the working of their process or of Chance's, beyond general statements. Plaintiff said (and he was not contradicted) that by his process, starting with dilute acid, five tons of concentrated acid were delivered in twenty-four hours; or if used without the tubes, five cwt. Chance's, with the tubes, gives only about two tons, starting with acid already partially concentrated. There is also a very important economy of fuel in plaintiff's process.

(*To be concluded.*)

[The judgment is very lengthy, but owing to its technical importance and interest, we have deemed it wise to put the full judgment on record. It will be concluded next week.—Ed. *C T J.*]

The Pacific Borax Co.—The Pacific Borax and Redwood's Chemical Works, Ltd., announce that, until further notice, the dividend on the 6 per cent. cumulative preference shares will be paid half-yearly, on May 1st and November 1st. Warrants for the next dividend will be posted on the 30th inst.

The Acetylene Exhibition.—An Exhibition of Acetylene Generators and Illumination is being organised by the Imperial Institute. In order to ensure that no apparatus should be admitted to the Exhibition to be shown in operation unless it had previously been shown to fulfil the requisite conditions of safety, the Council of the Society of Arts have appointed a Committee to decide upon those conditions and to lay down rules for the admission of apparatus. The following gentlemen have been appointed to act on this Committee:—Major-General Sir Owen Tudor Burne, G.C.I.E., K.C.S.I. (*Chairman of the Council*); Sir Frederick Bramwell, Bart., D.C.L., F.R.S.; Prof. James Dewar, M.A., LL.D., F.R.S.; Harry Jones, Esq., M.Inst.C.E.; Prof. Vivian B. Lewes, F.I.C., F.C.S.; Boverton Redwood, Esq., F.R.S.E., F.I.C.; Prof. W. C. Roberts-Austen, C.B., F.R.S.; Prof. J. M. Thomson, LL.D., F.R.S.; Sir Henry Trueman Wood, M.A. (*Secretary*). The Committee have, for convenience in classification, divided the generators into three groups:—1. Those in which the gas is generated by water being allowed to drip, or flow in a small stream, on to the top of the carbide. 2. Those in which water arises around the carbide. 3. Those in which the carbide falls into water. These have been further subdivided into automatic and non-automatic generators. Full particulars as to conditions and space, can be had from the Secretary to the Exhibition, Imperial Institute, London, S.W.

Reports of Companies.

MESSRS. MASON AND BARRY, LTD.

The directors' annual report for 1897 states:—The total quantity of ore broken and raised at the mine during the year 1897 was 177,549 tons, as against 192,428 tons in 1896, and the shipments during the same period (inclusive of ore from the cementation works) amounted to 267,290 tons, as against 202,696 tons in the previous year. The quantity of ore sold and invoiced for its sulphur value during 1897 amounted to 272,498 tons, as against 205,[illegible]06 tons in 1896 The average price of G. M. copper (including Chili bars) during 1897 was £49. 2s. 6d, as against £46 18s. in 1896 and £42 16s. in 1895. After writing off in the mine books for depreciation of works, plant, &c., the sum of £18,717., and allowing for the variation in the estimated value of stocks on hand in this country, on the Continent, and in Portugal on December 31st. 1897, and after deducting for management expenses and income-tax, the net profits on working account have amounted to the sum of £32,734. 0s. 10d., to which has to be added the sum of £8,540. 8s. 1d. received as dividend on La Sabina shares, and the sum of £3 814. 5s. from sundries, making together a total profit for the year of £45,088 13s. 11d. The stocks of ore and copper precipitate broken, raised, and on hand December 31st, 1897 (exclusive of the stocks at Wallsend works), are valued at £176,603. Compared with the two previous years the figures stand as follow:—

	1895.	1896.	1897.
Estimated value of stocks in England (exclusive of stocks at Wallsend works) and on the Continent	£46,117	£20,049	£39,922
Estimated value of stock in Portugal—			
Balance of cost of ore at cementation works	209,316	165,350	111,340
Ore ready for shipment	18,848	16,688	12,126
Copper precipitate	18,690	25,370	13,215
	£292,971	£227,457	£176,603

The stocks at the Wallsend works are shown by the balance sheet as valued at £645. on December 31st last, as against £796. on December 31st, 1896. The mine assets in Portugal (after writing off for depreciation) stood at December 31st, 1897, at £309,814. These assets embrace the following items, and compare with the preceding two years as under:—

	1895.	1896.	1897.
Works, buildings, land, plant, &c.	£84,843	£72,752	£59,053
Railways, shipping piers, tug boats, &c.	72,082	68,861	64,192
	£156,925	£139,613	£123,245
Mine stores and cash assets	53,128	48,161	49,888
Stock of ore and copper precipitate (as above)	246,854	207,408	136,681
	£456,907	£395,182	£309,817

The profit realised on the year's working amounts to £45,088. 13s. 11d., to which has to be added the balance, £3,268 1s. 8d., brought forward from the year 1896, making together the sum of £48,356 15s. 7d., less sundries (£450.), and the directors having written the sum of £4,500. off La Sabina shares, there remains a balance for appropriation of £43,406. 15s. 7d. From this balance the directors recommend the payment of a dividend of 4s. per share, and to carry forward the sum of £6,372. 7s. 7d. to the next account.

THARSIS SULPHUR AND COPPER COMPANY.

The ordinary general meeting of this Company was held on Wednesday last week. Sir David Tennant, chairman, in moving the adoption of the report, said the result of the year's business had been the best they had had for the last 13 years. It enabled the directors to pay a dividend of 25 per cent. after writing off £48,046 17s 4d. from the property and plant, and carrying forward £14,165. 1s. 8d. to the credit of the current year. This brought their average dividend for the 31 years of their existence to 18 1-3 per cent, having during that time paid to the shareholders £6,008,432., and written off £2,029,574 19s. 11d. from the original values of £2,533,598 16s 11d., leaving their total fixed property and plant, both in Spain and this country, standing at the modest value of £504,023. 17s. This was a very remarkable record, and one on which he might offer his congratulations to the shareholders. The total extraction from their mines during the last year had been 565,949 tons, against 557,577 tons in 1896, an increase of 8,372 tons, this increase being entirely in export mineral The costs of the removal of overburden and of raising their mineral had been practically the same as last year, and were extremely low. The copper contents had been a fraction less; but the costs of their copper precipitate were the lowest they had ever had, being £1. 6s. 10d. per ton below those of the

previous year. The production of precipitate had exceeded that of 1896 by 1,273 tons, and had the rain fallen earlier in the year this increase would have been greater. The prospects for 1898, unless marred by some untoward and unlooked for event, were extremely good. The production of copper and the costs would, he hoped approach those of last year, which were unusually low. The price they were now getting was above their average of 1897. As to the future of the copper market, the statistics were all in its favour; the stocks were very low compared with those of former years, and the consumption was increasing all over the world, and more especially in America. Its production would, no doubt, be increased, but not, he believed, in a greater ratio than consumption, at least for some time to come. Notwithstanding the disastrous engineering strike of last year, the consumption at home exceeded that of 1896. Altogether, a further rise was not unlikely, and he thought they might safely count on a higher average price for their production than in 1897. The demand for their iron or purple ore was not quite so brisk at this moment as it had been, but he looked for a further reduction of their stocks before the close of the year. In reply to a question, the chairman said he thought that in the event of war the transit of their ore would not be interfered with. The report was adopted, and the retiring directors were re-elected.

SAN SEBASTIAN NITRATE COMPANY, LIMITED.

The ninth annual general meeting was held on Monday, at Winchester House, E.C. Mr. Alexander R. Robertson presiding. In moving the adoption of the report, the chairman expressed regret at the unsatisfactory character of the accounts. The price ruling for nitrate had been such as almost to prohibit any idea of realising a reasonable profit. It was pleasant to find that the consumption was increasing, but still they had to face the fact that the output of nitrate could be almost indefinitely augmented; and he was sorry to say that the combination for restricting production, which the board had always done everything possible to assist, had come to an end. The question had arisen as to whether they should close their oficina and wait for better times. Of course it was a serious thing to take such a step, and, after carefully considering the matter at their last board meeting, the directors decided that it would be preferable, in the interest of the company, to continue making the small profits they were doing than to cease operations. When this company was formed they were able to dispose of their nitrate at £11. a ton, whereas now they could only get £7. per ton. Although they were able to produce 2,000 tons per month, they were only producing 1,000 tons, that being the least they could manufacture with economy. He must ask them to wait with patience and see what would be the result of the current year's working before adopting any other policy. Their financial position was a strong one. They owed nothing and had no debentures, so that there was no danger of a foreclosure on their property. Referring to the accounts, he said the net profit for the period under review amounted to £1,335., to which had to be added the balance of the previous year —namely, £2,324, less £173. for income-tax, leaving the sum of £3,486. to the credit of profit and loss, which the directors proposed to carry forward. Mr. George M. Inglis seconded, and the report was adopted.

SAN JORGE NITRATE COMPANY, LTD.

The ninth annual general meeting was held at Winchester House, E.C., Mr. Robert Harvey presiding. In moving the adoption of the report, the chairman said that the gross profit amounted to £30,360., which was increased to £31,773. by sundry receipts for interest, transfer fees, etc. The only year they could at all compare with the year under review was that of 1890. On that year's work they made £42,793., and then, as now, nitrate was exceptionally low, and was selling at about £7. per ton in Europe. On that occasion they paid 10 per cent., against 7½ per cent. now, and then, as now, he thought their company was one of the only two or three that paid any dividend at all. There being no combination at that time, the company's output was about 1,250,000 quintals, while their output this year had only been a little over 500,000 quintals. One of the principal reasons for the satisfactory result shown was that of very cheap production, and it must be pleasing to them to know that even now, after a lapse of over nine years' working, nitrate was put on board ship by them cheaper than ever before. The reduction of freights by the Nitrate Railway Company had certainly been of great help to them, and a careful system of working, coupled with effective representation and economical management, had enabled them to face low prices and to put their nitrate free on board as cheaply as they did in 1890. They had recently made some improvements in labour-saving machinery, which had effected a further reduction in their prime cost, and they could face the present deplorable times and low prices without anxiety.

ABNORMALLY LOW PRICES.

Prices were and had been so abnormally low as to cause all dear producers and many fairly cheap producers to close down their works and await better times. This action on the part of producers generally would in time have the desired effect, and as they had not stopped their own works they would be in a position to take advantage of any increased prices whenever they might appear. The present season's outlook was propitious for a large consumption, and once the surplus European stocks were used up they would, he hoped, see a revival in selling prices. The visible supply in Europe was barely sufficient for two months, and although there were fairly large stocks in Chili, yet the production had so diminished that the stocks on the other side would be encroached on and worked off, and as soon as that happened they hoped to see a marked rise in price. They had written down the value of their property by £4,000, which they considered quite ample. This naturally brought him to the suggestion he made last year of returning £1 per share as one of the methods of dealing with their large reserve, and he then asked them to communicate in writing their approval or otherwise. The Companies Acts precluded a return of capital unless adopted by a three-fourths majority of the shareholders. They had about 1,200 shareholders, and they only received 80 replies to his suggestion. The directors' action was therefore suspended, especially as some of the communications expressed disapproval of the suggestion. But immediately after their last meeting the price of nitrate began to decline rapidly, and it was entirely in the interests of the shareholders that the directors decided to keep these schemes in abeyance for a time, and to conserve intact their cash reserves. The balance sheet amply testified to the prudence of this action, as, having abundant capital at their disposal, they had not been obliged to sell. They therefore considered it wise at the present to leave the question in abeyance for a more propitious time, especially as negotiations had been initiated for the acquisition of adjoining nitrate grounds, which would be considerably to the company's advantage if they obtained them. Mr. George M. Inglis seconded the motion. Mr. Jeffries said he believed that there was some misapprehension among the shareholders at the last meeting regarding the suggestion of the return of £1. a share. He believed that the shareholders thought that they would receive a circular on the subject from the directors, and in that case he felt quite sure that a very large majority of the replies would have been in favour of the proposal. He thought that a dividend of 7½ per cent. might now be declared, instead of 5 per cent, making the return for the year 10 per cent. A shareholder remarked that the question they had to consider was

HOW LOW NITRATE WOULD FALL.

The Chairman, in reply, said that that was the point. They had only earned £30,000, and a dividend of 10 per cent. would require £37,500. He believed that no cautious man would at the present time attempt to weaken the directors' hands by interfering with the reserves. The report was then adopted.

Trade Notes.

THE SALT UNION DISPUTE.—At a special meeting of the Salt Union, on Thursday, the differences between the Shareholders' Committee and their Association were settled (see last issue), all the directors nominated by the Committee being elected.

THE OSWALDTWISTLE SEWER CASE.—The decision of the House of Lords in this case was given on Thursday in favour of the District Council, thus repealing the *mandamus* granted by Mr. Justice Charles, and confirming the decision of the Court of Appeal.

Obituary.—We much regret having to announce the sudden death of Colonel Sir Vivian Majendie, who died at Oxford on Sunday evening, from failure of the heart's action. His heart seems to have been weak for some time. He was 62 years of age. [It was our intention this week to have criticised freely and severely his evidence before the Petroleum Committee, but out of personal respect and regret for his sadly sudden end, we have refrained from so doing. Ed. *C.T.J.*]

INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.—At the second international congress of applied chemistry held at Paris in 1896, the year 1898 was fixed for the third congress of applied chemistry, and Vienna was chosen as the place where it should be held. In accordance with this resolution an organising committee has been formed in Vienna, consisting of representatives of the government, and of all branches of theoretical and practical applied chemistry. The following branches of chemistry will be represented at the congress. The chemistry of food, medical and pharmaceutical chemistry, agricultural chemistry, the manufacture of starch and grape sugar, brewing, malt manufacture, alcohol and yeast industries, œnochemistry, manure manufacture, glass and ceramic manufacture, lime and cement manufacture, industry of illuminants, metallurgy and smelting, the chemistry of explosives, chemistry of tar products, textile improvements, the industry of fats, the chemistry of leather produce and glue manufacture, the paper and celluloid industry, the chemistry of graphic professions and electrochemistry, which has risen to such importance of late years. All communications should be addressed to the Secretary of the Exhibition, Schönburgstrasse 6., Vienna, IV/2.

THE PETROLEUM COMMITTEE.—The Select Committee of the House of Commons appointed to consider the question of storage, &c., of petroleum, met again on Tuesday, and deliberated for about an hour in private. It was decided to take no further evidence. The Committee adjourned until after Whitsuntide, when they will meet to consider their report.

MANCHESTER SEWAGE TREATMENT: £160,000. TO BE BORROWED.—The Rivers Committee of the City Council met on Thursday to decide what sum should be borrowed for treating the city sewage at Davyhulme on the bacterial system. It was agreed to ask the sanction of the Local Government Board to the borrowing of £160,000. This sum, it is estimated, will be required for 37 acres of bacteria beds and the purchase of the necessary land for aëration purposes.

BELL'S ASBESTOS COMPANY, LIMITED.—The report for the year ended 31st December, 1897, says the result of the year's operations is a net profit of £5,172, to which has to be added the amount brought forward, £1,968.; leaving for appropriation £7,140. The directors recommend (1) the payment on the 16th May of a dividend at the rate of 4 per cent. per annum, free of income tax; (2) to carry forward £2,340.

Market Reports.

TAR AND AMMONIA PRODUCTS.

The depression in benzols still prevails, 90's selling at 10d. to 10½d., and 50/90's at 1s., and even lower, but the demand has increased considerably. There is more doing in pitch at 20s. prompt, and 20s. 6d. forward, f.o.b East Coast. Other products, except crude naphtha, are practically without change in price or position.

The sulphate of ammonia market is irregular, and the export demand is mainly for immediate delivery. Nearest closing values are:—Beckton, £8. 10s; London outside makes, £8. 15s.; Liverpool, £8. 16s. 3d.; Hull, £8. 12s. 6d.; and Leith, £8. 12s. 6d. to £8. 13s. 9d., all prompt.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is little change in values of the main products. Bleaching powder is exceedingly quiet owing to smaller export demand, and price is nominally unchanged at £6. to £6. 5s., hardwoods, f.o.b., and £5. to £5. 2s. 6d. softwoods, f.o.r. makers' works. Chlorates still depressed. In caustic soda business is only small, and prices remain as last week, viz.:—F.o.b. Liverpool, 77%, £8. 5s.; 74%, £8; 70%, £7. 2s. 6d.; 60%, £6. 2s. 6d. nett, per ton, 10-ton lots and upwards. Ammonia alkali is firm in price and in good general request at £4. 2s. 6d., bags, f.o.r. Soda crystals and bicarbonate are unchanged. In sulphate of copper there has been a further slight advance during the week, and price is firm at £16. 10s., f.o.b. Sulphur, £4. 10s., nett, f.o.r. In saltcake there is more doing at 19s. to 20s. in bulk, f.o.r. Brown acetate of lime is advanced to £6., c.i.f., with a rising tendency; grey, £8. Acetate of soda lower, at £11. 10s., c.i.f. Acetic acid rather firmer. Acetates of lead firm, at the advanced rates. Litharge dearer. White powdered arsenic has further declined to £18 5s. per ton. Zinc and zinc salts are higher in value. Prussiate of potash 6½d. per lb.; cyanide 1s. 3d. per lb. Makers of superphosphates and other fertilisers are fully engaged, and prices are rather higher in this branch of trade. Nitrate of soda firmer at 7s. 6d. per cwt. Glycerine continues to advance. Carbolic acid in all grades is unchanged. For green copperas there is a better inquiry, and prices are firm. Sulphocyanides are without improvement in value. Oxalic acid weak. For miscellaneous chemicals the demand in manufacturing districts is still generally reported as unsatisfactory.

REPORT ON MANURE MATERIAL.

Deliveries of manufactured manures continue on an unprecedented scale, and within the past few weeks there has been unusual activity in the market for mineral phosphates. This latter has been occasioned by the heavy drain upon stocks in the hands of manure manufacturers in the first instance, and it has been accentuated by the outbreak of hostilities betwen Spain and the United States. It seems likely that the war will interfere with raising both in South Carolina and Florida, and especially with shipments from ports in the Gulf of Mexico. Buyers who have been taking the bulk of their supplies of lower grade Rocks from Peace River and from Charleston, have consequently had to turn to Algerian to cover the contingency of non-shipment from America, and a heavy business has been done in Algerian 58/63% for 1898 and up to Spring, 1899, at advancing prices. At the close the bulk of the 1898 Algerian production has been disposed of, and the quotation for early 1899 Spring shipment has been advanced to 6d. per unit in cargoes c.f.i. to U.K. ports. There are no longer sellers of 77/80% Florida Rock for 1898 shipment, and the quotation for 1899 shipment is 6½d. per unit c.i.f. to United Kingdom, and the equivalent c.i.f. to Baltic and Continental ports.

It is anticipated that higher freights may prevail from River Plate, and in the meantime quotations for cargoes of River Plate bones are nominal. Already freights from India have advanced, and consequently advanced prices are quoted for bone meal for shipment. On the spot prices are somewhat easier owing to arrivals and to advices of parcels on the way. For Rangoon, shortly due, £4. 3s 9d. per ton, ex quay, has been accepted, and £4. 5s. per ton would probably be accepted for Bombay on spot.

Nitrate of soda continues to be in large demand both in U.K. and on the Continent, but spot price remains 7s. 4½d. per cwt. for fine quality. As yet there seems to be no prospect of combined action on the part of producers, and it remains to be seen how long the present unremunerative competition will continue. In the absence of some sort of combination materially advanced prices would seem to be out of the question.

There is nothing special to comment upon in miscellaneous nitrogenous material.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron: Scotch warrants closed at 46s. 5½d.; Middlesbro', 40s. 3½d cash; and hematite, 50s. 5½d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £52. 8s. 9d. to £52. 13s. 9d. cash, and £53. to £53. 5s. three months. Tin quiet. Straits closed at £65. 11s. 3d. to £66. 1s. 3d. cash, and £66 6s. 3d. to £66. 16s. 3d. three months; Australian, £65. 17s. 6d.; English ingots, £68. 10s. Lead strong: Spanish, £14. to £14 5s. 0d. English, £14. 10s. 0d.; Silesian spelter, ordinary, £18. 8s. 9d. to £19. 0s. 0d. Nickel, 1s. 2½d. Antimony, £32 10s. to £33. Quicksilver: First hands, £7. 1s. 3d.; second hands, £7. 0s 0d. *Copper shares* quiet: Cape, 4¾ to 4⅞; Copiapo, 2¼ to 2⅜; Libiola, 2⅜ to 2⅝; Mason and Barry, 3¾ to 4; Rio Tinto, 26 7/16 to 26 9/16; Tharsis, 6¾ to 7.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil firm, and moving well at enhanced values. Hard oils, £18. 10s.; Benin, £19 5s.; Bonny, £19. 10s.; and Lagos, £20. 10s. to £20. 15s; market still rising. Olive is only in limited demand at £30. 10s. per tun for Spanish. Linseed steady at 18s. to 18s. 6d. per cwt. for Liverpool makes in export casks. Cottonseed well maintained at 17s. 3d. to 17s. 6d. per cwt. Castor oil is steady, both for good seconds Calcutta and first pressure French. The tendency is in favour of sellers, with French at 3¼d. and Calcutta 3¼d. to 3 5/16d. per lb. Tallow strong, and advancing in sympathy with the London market, which is very firm. Resin active, with common at 4s. 7½d. per cwt., and well held thereat. Other grades in proportion, but all active. Spirits of turpentine firm and moving well at 28s. per cwt. Petroleum unchanged.

CAKES.—The market for all descriptions, imported and home-milled, has ruled exceedingly firm. American Western linseed on the spot have advanced 10s., but the higher rates rather checked business; £7. to £7. 10s. is quoted at the close. Liverpool makes had a moderately fair trade, and now quoted £8. to £8 15s. per ton. Good to choice brands of American decorticated cottonseed rule very firm, but with only a moderate business doing at £5. 15s. to £5. 10s., according to quality, with Liverpool makes selling to a very fair extent at £6. 7s 6d. to £7. per ton. Undecorticated Liverpool makes have sold freely at £4. 7s. 6d. to £5., according to brand, and Egyptian on the spot have also ruled strong, with a good demand experienced, and very little offering, even at £4. 7s. 6d. per ton.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The breaking out of the war has developed quite a mania here for advancing prices of everything. First coals are at famine prices, then merchants suddenly awake to the fact that the supply of corn in Hull is only sufficient to keep one mill supplied a day. Cotton and linseed oils, for some equally important reason, have jumped up first five, then ten, and remains at an advance of about fifteen per cent. It remains to be seen whether these panic prices are justified. The position at time of writing is a trifle easier, and quotations as follows:—Linseed oil quiet: spot 15s. 10½d. per cwt., naked; forward May-December, 16s. 3d.; boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil firm: spot, naked, 15s. 6d. per cwt.; forward May-August, 15s. 9d., and November-April, 15s.; crude ditto is quoted 14s. 6d., spot naked. Ordinary casks, £1. and barrels £1. 10s. per ton extra. Castor oil extracted here: First pressure, 29s. 6d. per

cwt., in barrels; in cases, $3\frac{5}{16}$d. per lb.; second pressure, in barrels, 28s. per cwt.; in cases, 3⅛d. per lb. French oil is quoted, f.o.b. Marseilles, May-June shipment, £27. 5s.; July-December, £26. 15s. net. Olive oils are quoted from £33. 10s. to £36. per ton. Rosin is quoted, B.C. grade, 4s. 9d. per cwt., ex quay. Olive oil soap, very little offering on spot; prices remain firm and unchanged. Oleines firm and unchanged. Cod oils, £16. 10s. to £19. per ton. Wool grease, £7. 10s to £9. per ton. Provisions upon this market have experienced sharp advance in prices. Lard is quoted from 30s. to 38s. per cwt., according to package.

CAKES.—All feeding stuffs are very firm, with quotations advanced. Linseed cakes, firm: 95% pure, £8. 5s. to £8. 7s. 6d. per ton. Russians, £7. 10s. to £7. 15s. per ton. Oilcakes (linseed), £7. 2s. 6d. to £7. 7s. 6d. Cotton cakes firm also: Best makes, £4. 12s. 6d. to £4. 15s; seconds, £4. 10s. to £4 12s. 6d. Decorticated cakes, £5 17s. 6d. to £6. per ton. Rape cakes unchanged.

PAINTS.—The market here is very active, with plenty of demand for goods in small packages. Disinfecting powder: 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. Sanitary fluid, 1s. per gallon. Black varnish, £5. per ton, in barrels.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, Tuesday.

The market continues rather distracted, and changes are deemed certain to be in the air, though the sort and quality of these are matters merely of rather wild speculation. Freights of raw material used in the manufacture of chemicals are at least sure to mount, and in certain contingencies the supply of copper pyrites might for a time be cut off altogether. Bicarbonate of soda is reported as up in price, but the rise is not general so far, and the lists meanwhile hold to the old quotations. Sulphate of ammonia, prompt Leith, was during the week done down to £8. 13s. 9d., but is now a shade firmer under the influence of the usual end-of-the-month inquiries. There has not been any movement except for prompt. There are no changes in mineral oils or solid paraffins, but the Scotch makers are turning over in their minds the possibility of some passing benefit should the war interfere to any extent with the sending of American petroleum and paraffin wax to this country.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 15s. 0d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 15s. to £5. 5s. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d nett, Tyne; saltcake, 19s. 6d.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 7s. 6d., and 1-cwt. casks £6. 15s. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 3d. to 7s. 6d.; sulphate of ammonia, £8. 15s.; prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 5s., less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 10,500 bags beet unrefined.

TYNE CHEMICAL REPORT.

Tuesday.

The market here still continues dull, and prices are unchanged. The home demand is fairly good. Soda crystals, £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77% £8. 5s. to £8. 10s per ton; and 70%, £7. 10s. per ton. Sulphur scarce, at £4. 15. to £5. per ton.

Bleaching powder, softs, £5. 15s. per ton, nett; do. hards, £6. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 3d. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—Market is very firm, though as supplies of coal are becoming freer, prices keep more level. The demand continues strong for best Northumbrian and bunker coals, and shipments of coke are heavy. To-day's quotations are:—Best Northumbrian steam, 16s. to 18s. per ton; second qualities, 15s. to 17s. per ton; small steam, 6s. to 7s 6d. per ton; bunker coals, 10s. to 11s. per ton; household coals quiet, 10s. to 11s. per ton; coke, firm, 17s. 6d. to 20s. per ton.

New Companies.

African Fish Oil and Guano Synd., Ltd.—Capital £100,000. in £1. shares. This company has been formed to acquire the benefit of certain patents and inventions for all parts of the world between 30° W. long. and 60° E. long., and the 30° N. lat. and 50° S. lat., to adopt an agreement with the Oil Patents Synd., Ltd., and to carry on the business of smack, trawler, and ship owners, fish salesmen and carriers, oil extractors and merchants, artificial manure manufacturers, etc. The subscribers to the memorandum of association are:—J. R. Rigby, 154 and 155, Palmerston Buildings, Old Broad-street, E.C., chartered accountant; H. Fenwick, 16, St. Helen's Place, E.C., secretary; H. E. Moore, 3, New Station-road, S. Tottenham, clerk; J. S. Macdonald, 66a, Chandos-street, Strand, clerk; A. J. Hall, Lewes House, Bromley, Kent, solicitor; H. Bullock, 9, Holland-road, Hornsey, N., gent; T. W. Doran, 84, Winston-road, Green Lanes, N., clerk.

Lancashire Varnish Manufacturing Co., Ltd.—Capital £1,000. in £1. shares. This Company has been formed to manufacture and deal in varnish, paint, oil, grease, chemicals, etc. Registered office, 17, Grimshaw-street, Preston.

Stevenson & Howell, Ltd.—Capital £200,000. in £1. shares (100,000 5% cum. pref.). This company has been formed to adopt an agreement with W. Stevenson and R. Howell, and to carry on the business of manufacturing chemists, wholesale druggists, drysalters, and manufacturers, distillers and rectifiers of and dealers in essential oils, fruit and soluble essences, spices, perfumery, proprietary articles, etc. The subscribers to the memorandum of association are:—G. U. Neish, 66, Watling-street, E.C., gent.; B. Howell, 66, Watling-street, E.C., gent.; J. C. Macfarlane, The Grange, Royston Park, Pinner, gent.; W. H. Gray, 100, Penton Place, Kennington, S.E., gent.; H. E. Burleton, 2, Powis Gardens, Bayswater, gent.; A. J. M. Taylor, 74, Tunis-road, Shepherd's Bush, W., gent.; G. Bennett, 88, Napier-road, Leytonstone, gent.

Thomas Ridley & Co., Ltd.—Capital £7,000. in £1. shares (2,000 6% cum pref.). This company has been formed to acquire and carry on the wholesale department of the business of druggists, drysalters, oil, paint and colour merchants and confectioners, carried on as Thomas Ridley & Co., at English-street, Carlisle, and to adopt a certain agreement. The subscribers to the memorandum of association are:—T. Ridley, 9, English-street, Carlisle, chemist; J. T. Graham, Howard Place, Carlisle, agent; A. Martlew, 49a, English-street, Carlisle, drysalter; J. N. Bell, Beaconsfield-street, Carlisle, drysalter; I. Falder, 33, Ashley-street, Carlisle, drysalter; J. Coulthard, 1, Alton-street, Carlisle, traveller; T. H. Bell, 76, Corporation-street, Carlisle, warehouseman.

Vinolia Co., Ltd.—Capital £100,000. in £1. shares. This company has been formed to acquire and carry on the business of soap manufacturers and perfumers, carried on as "The Vinolia Co.," at Malden Crescent, Kentish Town, N.W., and at Lea Bank Soap Works, Carpenter-road, Stratford, E., and elsewhere, and to adopt an agreement with E. Burrows and J. H. Hartridge. The subscribers to the memorandum of association are:—E. Burrows, Malden Crescent, N.W., manufacturer; J. H. Hartridge, Malden Crescent, N.W., manufacturer; F. J. E. Welch, 54, Astbury-road, S.E., advertisement manager; H. Garnett, 38, Parolles-road, Upper Holloway, N., chemist; G. H. Radford, 40, Chancery Lane, W.C., solicitor; P. Pasquet, 73, Adelaide-road, N.W., parfumeur; W. Pinney, 92, Minet Avenue, Harlesden, N.W., accountant.

J. & G. Cox, Ltd.—Capital £300,000. in £10. shares. This company has been formed to acquire the business, property, and assets of J. & G. Cox, manufacturers of gelatine and glue, and merchants, Georgie Mills, Edinburgh, and to carry on the same. The subscribers to the memorandum of association are:—R. Cox, 34, Drumsheugh Gardens, Edinburgh, M.P.; G. Chiene, 19, Palmerston Place, Edinburgh, chartered accountant; W. Elgin, 67, George-street, Edinburgh, accountant; A. M'Cullogh, Georgie Mills, Edinburgh, manager; J. M'Cullogh, Georgie Mills, Edinburgh, assistant manager; W. Smith, 57, Northumberland-street, Edinburgh, advocate; J. Tait, 67, George-street, Edinburgh, chartered accountant.

IMPORTS OF CHEMICAL PRODUCTS

AT

THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 16th.

Acetic Acid
Holland, 75 pks. A. & M. Zimmermann

Acetone—
Holland, 10 pks. Chilworth Gunpowder Co.

Alkali—
Belgium, 109 c. J. Harrison

Alum—
Holland, 231 pks. Ohlenschlager Brs.
Germany, 100 R. W. Greeff & Co.

Antimony—
Japan, 15 t. H. Kevil & Co
E. Indies, 6 R. & J. Henderson

Antimony Ore
Germany, 50 t. Jones Forster
——— 15 R. & J. Henderson

Arsenic
Portugal, 92 pks. Coverley & Westray
Belgium, £50 T. H. Lee

Asbestos—
U.States, £745 W. Byford
Canada 300 ,,
Italy, 338 Imperial Asbestos Co.
,, 200 Pickford & Co.
U. States, 180 Wilson's & Furness Co.
Germany, 80 Craven & Co

Asphaltum—
B. W. I., 320 pks. Elkan & Co

Barium Chloride
Germany, £30 Petri Brs.

Barytes
Germany, 50 pks. J. L. Lyon & Co.
,, 20 Steinhoff, Sons & Co.
Belgium, 3 7 J. L. Lyon & Co.
Holland, 200 W. Harrison & Co
,, 110 T. & W. Farmiloe, Ld.

Bleaching Powder—
Holland, £110 J. M Steel & Co.

Bleaching Soda
Germany, £153 H. Lambert

Bone Meal—
N Russia, 30 t. Lawes Chem. Manure Co.
E. Indies, 325 A. Hunter & Co.
Damara L'd 430 ,,

Bromine—
Italy, 40 pks. A. & M. Zimmermann

Caoutchouc—
Straits, 391 c. E. Boustead & Co.
,, 188 Huttenbach & Co.
,, 369 Butler's Wf. Ld.
Queensland, 3 McIlwraith, McEacharn & Co.
E. Indies, 4 G. D. Jennings & Co.
France, 26 Girard Brs. & Co.
,, 6 Procter Brs.
,, 90 Major & Field
U. States, 4 Lewis & Peat
Straits, 117 W. Pope & Co.
,, 58 L. & I. D Jt. Co.
Ceylon. 3 H. Kiver & Co
Colombo. 95 Hoare, Wilson & Co.
Ecuador, 40 Mancha & Co.
,, 40 Mildred Goyeneche & Co.
Sydney, 16 McIlwraith, McEacharn & Co
Straits, 96 J. Swire & Sons

Castor Oil—
Italy, 25 cs. Barron, Harveys & Co
,, 5 cks. A. Lawing & Co.
France, 55 brls. Mordaunt Bros.

Caustic Potash—
Belgium £43 T. Rowlidson & Co.

Chemicals *(otherwise undescribed)*
Belgium, £12 John Cockerill Ltd
Germany, 82 H. Lambert
Italy, 90 A. & M. Zimmermann
,, 12 Butler's Wf., Ld.
Holland, 30 T. H Lee
France. 16 Mory & Co.
Germany, 60 Craven & Co
,, 150 L. & I. D Jt. Co
,, 6 T. H. Lee
,, 37 E Merck
Belgium, 90 T. Palmer
,, 60 B & F. Wf Co
,, 79 Leach & Co.
Holland, 15 J. Barber & Co.
Egypt, 12 G. W. Wheatley & Co.
N Zealand, 75 L. & I. D. Jt. Co.
Sydney. 600 ,,
Germany, 27 D. T. Demeier & Co., Ld.
,, 15 Fyffe, Hudson & Co
,, 7 Phillipps & Graves
Holland, 25 Petri Brs.

Citrate of Lime
Italy, 22 pks Thames S. T. & L. Co.

Citric Acid—
Germany, 3 pks. Butler's Wf., Ld.

Copper Sulphate—
U. States, 21 pks. L. & Til L. C. & D Co.
,, 775 Brandies, Goldschmidt & Co

Cream of Tartar—
France, 10 pks. W. C. Bacon & Co.
Holland, 20 C & E. Morton
France, 2 H. Johnson & Sons
Spain, 3 City Coml. Wf., Ld.
,, 2 B. & F. Wf. Co.
Holland, 8 Kirkpatrick, Barr, & Co.
France, 5 F. C Devon & Co.
,, 5 M. Ashby, Ld.
,, 5 B. & F. Wf. Co.

Dyestuffs—

Aniline
France, 1 pk. Gellatly, Hankey & Co.

Argols
Italy 421 pks. B. Jacob & Sons
,, 90 T. S. T. & L Co., Ld
Portugal 25 F. Knowles & Co.

Cochineal
Canaries, 4 pks. W. M. Smith & Sons
,, 11 Sperling & Williams
,, 10 Swanston & Co.

Divi Divi
E. Indies, 178 pks. Walker, Munsie & Co.

Extracts
Austria, 150 pks. B. utcher Mortimore & Co.
France, 115 Bennett S. S. Co.
Austria, 70 Bailey & Leetham, Ld.
France, 200 T. H. Lee
U States, 12 W. C. Barnes & Co.
France, 54 Carey & Sons
Germany, 23 Butler's Wf., Ld.
,, 22 J. Norrenberg & Co

Gambier
Straits, 647 pks. Beresford & Co
,, 336 S. Barrow & Bro., Ld.
,, 177 W. Balchin. Ld
,, 1,126 J. W. Cook & Co., Ld.
,, 445 G. R. Haller, Ld.
,, 1,457 R. & J. Henderson
,, 488 L. & I. D. Jt Co.
,, 276 Prop. Hay's Wf.

Indigo
Bengal 109 chts. Lewis & Peat
,, 50 L. & I. D. Jt Co.
,, 111 J. W. Cook & Co., Ld.
Bombay 11 Forbes, Forbes & Co.
Madras, 23 L. & I. D. Jt. Co.
,, 24 Walker, Munsie & Co.
,, 25 P. Macfadyen & Co.
Bengal, 74 P. & O. Co.
Madras. 18 H Johnson & Sons
,, 17 Parsons & Keith
Bengal. 243 ,,
,, 5 L. Achard & Co.
U States, 183 cs. Baring Brs. & Co.
E. Indies, 1 bx. A. B Curtis & Co.
,, 117 pks. J. W. Cook & Co., Ld.
Bengal, 8 chts. W J. & H. Thompson

Logwood
B. W. I., 63 t. T. Hankey & Co.

Madder
France, 3 pks. J. H. Fox & Co.

Myrabolams
E Indies, 1 559 pks. E. J Winser & Co
,, 1,458 L & I. D Jt. Co.
,, 610 G. & H Green
,, 1,540 Baxter & Hoare
,, 657 Hepburn & Co

Naphthaline
Germany, 13 pks. Flemings Oil & Chem. Co.

Shumac
Italy. 1,000 pks. J. Kitchin, Ld.
,, 100 L & N. W. Rly Co.
,, 151 Bailey & Leetham, Ld.

Tanners' Bark
H. Kong, 109 t. J. T. Rennie, Son & Co.
Cape. 23 A & W. Nesbitt

Turmeric
E. Indies, 102 pks. G. & H Green
,, 99 J. P. Alpe & Co.
,, 220 Hale & Son
H. Kong, 128 R. G. Hall & Co.

Valonia
A. Turkey, 104 t Anning & Cobb

Farina—
Germany, 350 pks. R. Bennett & Co.
Holland, 250 J. Barber & Co.

Glucose—
Germany, 35 pks. 28 c. Deering & Robottom
U. States, 2,000 2,000 G. Clark & Son
France, 200 200 L. Norman & Co., Ld.
U. States, 3,000 2,000 E. Thompson & Co.
,, 50 306 Wilson & Furness Leyland Line
,, 50 288 J. Keiller & Son
,, 500 500 Fellows, Morton, & Co.
,, 500 500 Beresford & Co.
,, 3,000 3,000 Pearce, Pelly & Co
,, 50 305 Barrett, Tagant & Co.
,, 900 2,100 L. & I. D. Jt. Co.
,, 7,000 12,367 R. G. Hall & Co.

Glue—
France, £539 Burnett, Brs. & Sons
Belgium, 445 Leach & Co.
Austria, 160 J. Greig
Holland, 57 A. G. Robinson & Co.
France, 324 J. Harrison
,, 240 T. M. Duche & Sons
U. States, 30 Armour & Co.
Belgium, 960 J Barber & Co.
France, 40 B & F. Wf Co.
,, 35 Mory & Co.
Austria, 100 J Barber & Co
Belgium, 300 Duche & Sons
Austria, 300 M. H. Voss

Kainit—
Germany 52 t F. W. Berk & Co., Ld.

Lead Acetate—
Germany. £125 Beresford & Co.
,, 121 Butler's Wf., Ld

Magnesium Sulphate—
Germany, £65 Deering & Robottom

Methyl Alcohol—
France 20 dms. A. H. Wintergill
U. States, 22 H. Wallace & Co
France, 20 E. J. Catlin

Mica—
E. Indies, £250 W. M. Smith & Sons
,, 2 042 Dundee, Perth & London Shipping Co.
Italy 7 Imperial Asbestos Co
U. States, 45 Lindsay, Bird, & Co.

Molasses—
U. States, 50 cks. 500 c. W. Balchin, Ld
Germany, 1,813 10,000 J. R. Francis & Co
B.W.I., 5 40 J. Travers & Sons
,, 16 178 C. Czarnikow
,, 60 480 H. Jackson
,, 102 Wilkinson & Gaviller
U. States, 125 676 G. Horozee
,, 792 4,815 Wilson & Furness Leyland Line
B.W.I., 5 pns. 20 Hoare, Wilson, & Co.
U. States, 101 brls. 530 J. W. Cook & Co.

Nitre—
Chili, 41,663 bgs. W. Montgomery & Co.

Ochre—
Holland, 5 pks. Phillipps & Graves
France, 10 Sollas & Sons
,, 145 W. Harrison & Co.

Oxalic Acid—
Norway, 10 pks. W. Caudery & Co.

Phosphate of Lime—
France 140 t. West & Penrose

Phosphate Rock—
Belgium, 370 t. Lawes Chemical Manure Co.

Pitch—
U. States, 34 cks Phillipps & Graves

Plumbago—
Ceylon 138 brls. J. Threddar, Son, & Co.
Italy 60 ,,
Ceylon, 28 A. B. Curtis & Co.
,, 33 R. G. Hall & Co.
,, 126 Union Ltge. Co., Ld.
,, 85 Powell Jones, & Co.
Straits, 62 Marshall & French
U. States, 12 Lunham & Moore
,, 85 Doulton & Co
Belgium, 50 bgs. Brit. Anti-Fouling C & P. Co

Potassium Carbonate—
U. States, 84 c. Charles & Fox
Germany, 43 Petri Brs.
,, 23 Butler's Wf., Ld.
Belgium, 100 F. Smith

Potassium Permanganate—
Germany. 103 pks. F. Boehm

Potassium Prussiate—
Belgium, 40 pks. Blagden, Waugh, & Co
Holland, 20 ,,

Potassium Sulphate—
Germany, 300 pks. D de Pass & Co.

Pumice Stone—
Italy, 4 t. G W. Largen
Germany, 2 Blundell, Spence, & Co.
Italy, 6 Wilkinson & Co.
,, 2 O'Hara & Hoar

Pyrites
Pomaron, 970 t. Mason & Barry, Ld
Bossino 1,500 Davies, Jones, & Co
Spain, 717 Naylor, Benzon, & Co

Rosin—
Germany, 26 cks. L. & I. D. Jt. Co.

Rosin Oil—
France, 60 pks. Barratt, Tagant, & Co.
Germany, 22 R. L. Archibald

Salt—
Germany, £50 J. Graves
Portugal, 170 W. Byford

Saltpetre—
Germany, 70 cks. S E. Railway Co.
E Indies, 336 bgs. Lon. & Til. Ltge. C & D. Co.
Germany, 50 cks. J. Hall & Son
,, 90 P. Hecker & Co.
E. Indies, 150 bgs. Lucas & Spencer's Wf.

Sodium Acetate—
France, 252 pks J. Harrison

Sodium Prussiate—
Belgium, 16 cks. Blagden, Waugh, & Co.

Sodium Sulphate—
Germany, £68 Deering & Robottom

Starch—
Belgium, 40 pks. T. H. Lee
,, 1,170 E. & T. Pink
,, 120 J. Harrison
Germany, 6 Butler's Wf., Ld.
Holland, 110 Phillipps & Graves
Belgium, 100 Leach & Co
France, 23 M. Smith
Holland, 1,346 Little & Johnston
Belgium, 133 F. Clayden & Co.
France, 8 J. Barber & Co.
Belgium, 283 Becker & Wagner
Holland, 610 A Starck

Stearine—
Belgium, 9 cks. H. Hill & Sons
,, 517 bgs. ,,
,, 14 Kumpff & Eckenstein
Holland 50 bls. J Owen
Belgium, 25 bg. D. C. Thomas & Sons
N.S W., 150 cks. A B. Curtis & Co.

Sulphur—
Spain, 100 t. J. Forster
Italy, 200 B Jacob & Sons
,, 200 W. C. Bacon & Co
,, 48 Bailey & Leetham, Ld

Talc—
France, £60 Brasch & Rothenstein

Tar—
Channel Is, 588 brls. Burt, Boulton, & Co.
Germany, 200 W. Beard & Son

Tartaric Acid—
Belgium 9 pks. F. C. Devon & Co.

Ultramarine—
Holland, 13 pks Hernu, Peron, & Co.
Germany, 10 Phillipps & Graves
Holland, 14 W. Harrison & Co.
" 12 J. Barber & Co

Varnish—
U States, 16 pks. Williams, Torrey, & Co.
" 6 Dawson Brs.
Germany, 11 Butler's Wf., Ld.
" 3 H. Lambert
Belgium, 2 H & G. Dutfield
" 6 Stobbs, Wilson, & Co.
U. States, 14 Mekin, Johnson, & Co.

Verdigris—
France 4 pks B. & F. Wf. Co.

Waste Salt—
Germany, 25 t. F. W. Berk & Co., Ld.
Belgium, 75 J. G. Back

White Lead—
Germany, 21 pks. M. Ashby, Ltd.
Holland, 39 Burrell & Co.
" 39 W Balchin, Ld.
Belgium, 30 J. L. Lyon & Co.
" 11 T. & W. Farmiloe, Ld.
Germany, 25 W. A. Rose & Co.
" 21 Burrell & Co.
" 27 H. B. Alder & Co.
Holland, 21 M Ashby Ltd.
" 37 Wilkinson, Heywood, & Co.

Wood Pulp—
Sweden, 720 pks. Alsing & Co. Ld.
" 400 W. G. Taylor & Co. Ld
Germany, 51 C S. Lovell
" 507 Tough & Henderson
Sweden, 272 C. S. Lovell
" 180 Christopher en, Andrews. & Co
Norway, 406 W. G. Taylor & Co., Ld.
" 200 Johnsen & Jorgensen
Belgium, 3,232 P. Heydmann
Sweden, 234 M. Dk Co.
Germany, 500 Christophersen, Andrews, & Co.
Canada, 2,490 G. Becker & Son
" 1,246 Henderson, Craig, & Co.
Norway, 400 Christophersen, Andrews, & Co.

Zinc Oxide—
Holland, 50 pks. Fellows, Morton, & Co.
" 210 M. Ashby, Ltd.
" 4 J. Owen
U. States, 500 M. Ashby, Ltd.

Zinc Skimmings—
U. States, 11 t. Cartledge & Co.

LIVERPOOL.
Week ending April 14th.

Acetic Acid—
Rotterdam, 17 bal'oons

Barytes—
Rotterdam. 22 cks.

Bone Black—
Philadelphia, 20 brls. E.T. Houghton & Co.

Boracic Acid—
Rouen, 9 cks. Co-op. W'sale Society, Ld.

Borates—
Cardenas, 2,671 sks.

Borax—
Mollendo, 2,680 cks.

Butyric Acid—
Rotterdam 2 cks.

Castor Oil—
Genoa, 40 cs. Evans, Sons & Co.
" 35

Colours—
Ghent, 12 cks.
Trieste, 200 bgs.
Rotterdam, 6 pks.
Antwerp, 3 cks.

Cottonseed Oil—
Baltimore, 200 brls.
N. Orleans, 1,000
New York, 10
Pt. Arthur, 500 Hakley Brs.
Galveston, 250 P. Lusgers & Co.

Cream of Tartar—
Barcelona, 5 cks. Sachse & Klemm
Bordeaux, 39
Oporto, 5

Dyestuffs—
Algarrobilla
Coquimbo, 245 sks. H. Cooke
Aniline Salts
Rotterdam, 40 cs.
Annatto
Bordeaux, 4 cks.
Cochineal
Gd. Canary, 37 bgs. R. E. Woodin
Barcelona, 6 Wood & Bedford
Cutch
Rangoon. 3,052 bxs.
Divi Divi
Hamburg, 112 bgs.
Fustic
Kingston, 616 pcs. F. A. de Pass & Co.
" 97 Gillespie Brs.
" 1,289
Halifax, 151
Trieste, 30 t. R. Evans & Woodhead
Saffron
Valencia 1 cs.
Shumac
Barcelona, 100 sks.
Valonia
Patras, 400 bgs.
Dragarestre, 1,800
Smyrna, 2,234 4,181 ktls.

Farina—
Fiume, 300 bgs.
Rotterdam, 50
Amsterdam, 30
Hamburg, 3,202 H. Tyrer & Co.

Glucose—
New York, 300 brls. T. M. Duche & Sons
" 400 L. Sutro & Co
" 250 Rogers, Holloway & Co.
" 13
Pt. Arthur, 100 "
" 450 Glucose Sugar Ref. Co.
" 500 H W. Peabody & Co.

Glue—
Fiume, 100 bgs. Thlee & Sankey
" 300 4 cks. 100 bls
Trieste. 300 4
St Nazaire, 7 6
Rouen, 167 pks 4 Co-op W'sale Society, Ld.
Rotterdam 100 bgs 4 cs.
Antwerp, 20 bls.

Limestone—
Antwerp, 2 crts.

Lithopone—
Rotterdam 20 cks.

Mineral White—
Fiume, 680 bgs.

Molasses—
N. Orleans, 1,400 brls.

Ochre—
Rouen, 58 cks. Co-op W'sale Society, Ld.
Alicante, 122 sks.

Paint—
St. John, N.B., 1 brl.
Amsterdam 20 1 cs

Paraffin Scal—
New York, 150 brls. Thompson & Bedford
Baltimore, 300
New York, 539 Anglo-Am. Oil Co.

Plumbago—
Genoa. 200 bgs.

Potash—
Dunkirk, 20 dms.
Rouen, 54 cks. Co-op W'sale Society, Ld.
Antwerp, 5 brls.

Pyrites—
Huelva, 7,456 t. Matheson & Co.
" 1,129 H. Bath & Son

Saltpetre—
Hamburg, 22 cks.

Silver Sulphide—
Vera Cruz, 16 cs. Elliot's Metal Co

Soap—
Bari. 92 cs.
Marseilles, 125
Smyrna, 587 bxs.
Naples, 30
New York, 4

Soapstone—
Genoa 150 bgs. Hughes, Chemery & Co.
" 100

Sodium Nitrate—
Iquique, 13,130 bgs.

Starch—
Baltimore, 100 bgs. 100 brls.
Newport News, 400
Antwerp. 445 cs.
Rotterdam, 57 pks
Philadelphia, 110 brls Howard & Sons

Stearine—
New York, 10 hds.
Antwerp, 22 bgs.

Tallow—
Boston, 613 tcs
Baltimore, 400
Boston, U.S.A., 575 200 brls. 100 hds.
Portland, M., 1,000
B. Ayres, 866 hf-pps. 297 cks

Tartaric Acid—
Rotterdam, 8 cks.
Marseilles, 14
Bordeaux, 1

Tin Ashes—
Genoa, 182 bgs.

Treacle—
New York, 225 brls.
Philadelphia, 575

Varnish—
New York, 10 brls. W. A Warren

Waste Salt—
Hamburg, 414 cks H. Tyrer & Co.

Wood Pulp—
Portland, M., 1,662 bls.
Skien, 4,795 bls. H. Tyrer & Co.
Rotterdam. 17 pks.

Zinc Ashes—
Genoa. 88 bgs.

MANCHESTER.
Week ending April 16th.

Acetic Acid—
Ghent, 11 brls.

Alizarine—
Rotterdam, 51 cks. 4 brls. Wilson, Sons, & Co., Ld.

Aniline Salts—
Rotterdam. 23 cks

Barytes—
Rotterdam, 34 cks Wilson, Sons, & Co. Ld.
Antwerp, 150 bgs. J T. Fletcher & Co.

Chemicals *(otherwise undescribed)*
Hamburg, 1 ck.

Colours—
Antwerp, 4 cks.
Hamburg, 14 cs.
Rotterdam, 55 15 2 pks. 9 bxs. 5 brls Wilson, Sons, & Co., Ld.

Farina—
Rotterdam, 1,000 bgs. N. M. Jackson
" 1,010 Wilson Sons, & Co Ld.
Stettin, 500 W. H Stott & Co
" 350 Browne, Geveke & Co.
" 250

Glucose—
New York, 208 brls.
Stettin. 300 cks.

Glue—
Rouen, 16 cks.
Rotterdam. 20 bgs Wilson Sons, & Co., Ld.
Stettin, 20

Indigo—
Rotterdam, 4 chts. Wilson, 3 brls. Sons, & Co., Ld.

Limestone—
Ghent, 3 cs.
Antwerp, 6 crts.

Litharge—
Rotterdam. 15 cks Wilson, Sons, & Co., Ld.

Madder—
Rotterdam. 1 ck. Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 6 cks.

Oxalic Acid—
Stettin, 25 cks. W. H Stott & Co

Paraffin Scale—
New York, 315 brls.

Potash—
Hamburg, 40 cks. 22 dms.
Rouen, 14

Soda—
Gothenburg, 4 cks.

Sodium Acetate—
Rouen, 22 cks

Sodium Nitrate—
Rotterdam, 8 cks Wilson, Sons, & Co, Ld.

Starch—
Antwerp, 162 cs.
New York, 2,347 bgs.
Rotterdam, 174 Wilson, Sons & Co, Ld

Stearine—
Antwerp. 76 bgs

Tar Waste—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Tartar
Hamburg, 12 cks.

Tartar Salts—
Hamburg, 20 cks

Ultramarine—
Hamburg. 6 cs. and qty.

Wood Pulp—
Rotterdam, 9 pks. Wilson Sons & Co., Ld.
Gothenburg, 18 rolls 4,168 bls.
Christiania 50
Hamburg. 400 pks. 40

Zinc Ashes—
Antwerp, 7 cks.

Zinc Oxide
Antwerp, 10 cks.

HULL.
Week ending April 16th

Acids—
Burletta, 62 cks. Wilson, Sons & Co., Ld
" 2
Hamburg, 5 pks. Bailey & Leetham, Ld.

Antimony Salts—
Bremen, 7 cks. Veltmann & Co.

Barytes—
Rotterdam, 48 cks. W. & C. L. Ringrose
Bremen, 42, 1 pk.
Antwerp. 93 cks Bailey & 10 bgs. Leetham, Ld.
" 55 cks. H. F. Pu'sey
Rotterdam, 50 Hutchinson & Son

Bleaching Powder—
Antwerp. 3 cks. Bailey & Leetham, Ld.

Boracic Acid—
Hamburg. 5 cks.

Borax—
Hamburg, 17 cks.

Chemicals *(otherwise undescribed)*
Hamburg. 6 cks. Wilson, Sons, & Co., Ld.
Bremen. 2 Veltmann & Co.
58 cs.
Dunkirk, 89 pks.
Antwerp 103 Wilson Sons, & Co, Ld

Cod Oil—
Christiansand. 5 brls. Wilson, Sons, & Co., Ld.

Colours—
Rotterdam, 11 cks. W. & C. L. Ringrose
Riga, 1,364 pks. Wilson, Sons, & Co., Ld.
" 1 cs.
Hamburg 2 "
Christiania. 20 "
Bremen, 2 cks. Veltmann & Co.
2 cs.
Antwerp, 3 cks. 2 bls. Wilson, 1 cs. Sons, & Co, Ld.
23 pks.
Rotterdam, 6 cks. Hutchinson & Son
2 cs.
2 bxs. 1 brl.

Cryolite—
Copenhagen, 2 cks. Wilson, Sons. & Co., Ld.

Dyestuffs—
Alizarine
Rotterdam, 2 cks W. & C L. Ringrose
Aniline Colours
Hamburg, 5 cks. Sissons Brs. & Co.
Indigo
Rotterdam, 5 cks. W. & C. L. Ringrose
Shumac
Palermo, 1 c bgs. Wilson, Sons, & Co., Ld.
" 399
Trieste, 75 "

Farina—
Stettin, 600 bgs. Wilson Sons, & Co., Ld

Harlingen, 100 bls. W. & C. L. Ringrose

Glucose—
Stettin, 100 bgs. Wilson, Sons, & Co., Ld.
New York, { 750 / 700 brls.

Glue—
Hamburg, 240 bgs. Wilson, Sons, & Co., Ld.
Fiume, 200 "
Rotterdam, 15 W. & C. L. Ringrose

Kaolin—
Rotterdam, 231 bgs. Hutchinson & Son

Magnesite—
Fiume, 100 bgs. Wilson, Sons, & Co., Ld.

Mineral White—
Fiume, 100 bgs. Wilson, Sons, & Co., Ld

Minium—
Rotterdam, 16 cks. W. & C. L. Ringrose

Pumice Stone—
Messina, 30 pks. Wilson, Sons, & Co., Ld.

Rosin—
Brunswick, Ga., 1,352 brls. G. & J. Rawstorn, Ld.

Saltpetre—
Hamburg, 10 kgs. Wilson, 12 bgs. Sons, & Co., Ld.

Soap—
Bari, 14 cs.

Soda—
Antwerp, 100 bgs. Wilson, Sons, & Co., Ld.

Sodium Nitrate—
Iquique, 10,103 bgs.

Starch—
Rotterdam, 44 cs. W. & C. L. Ringrose
Amsterdam, 40 Hutchinson & Son
Ghent, 145 Wilson, Sons, & Co., Ld.
Bremen, 2,141 Veltmann & Co.

Sulphur—
Catania, 267 cks. Wilson, Sons, & Co., Ld.
" 167 pks. 50 t.

Tallow—
Dunkirk, 337 cks. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 10 cks. W. & C. L. Ringrose
" 8 Hutchinson & Son

Treacle—
New York, 1,222 brls. Wilson, Sons, & Co., Ld.

Turpentine—
Brunswick, Ga., 2,500 brls. G. & J. Rawstorn, Ld.
Libau, 5 Bailey & Leetham, Ld.
" 53 Helmsing & Son

Waste Salt—
Hamburg, qty. Bailey & Leetham, Ld.

White Lead—
Amsterdam, 62 cks. W. & C. L. Ringrose
Rotterdam, 53 "
" 29 Hutchinson & Son

Wood Pulp—
Hamburg, 15 bls. Wilson, Sons, & Co., Ld.
Drontheim, 80 "
Christiania, 430 "
Gothenburg, { 856 / 74 bdls. "
Konigsberg, 100 bls. Bailey & Leetham, Ld.
Hango, 262 J. Good & Sons

Zinc Oxide—
Rotterdam, 20 cks. W. & C. L. Ringrose

GLASGOW.

Week ending April 21st.

Arachide Oil—
Rotterdam 2 cks. J. Rankine & Son

Asbestos—
New York, 120 bgs.

Barium Chloride—
Rotterdam, 9 cks. J Rankine & Son

Barium Sulphate—
Antwerp, 300 bgs.

Caustic Potash—
Hamburg, 13 dms.

Chemicals (*otherwise undescribed*)
Hamburg, 1 cs.

Colours—
Rotterdam, 102 pks. J. Rankine & Son

Cottonseed Oil—
New York, 50 brls.

Dyestuffs—
Alizarine
Rotterdam, 7 brls. J. Rankine & Son
Aniline
Rotterdam, 49 cks. J. Rankine & Son
1 cs. 2 bxs.
Aniline Colours
Hamburg, 1 cs. 14 cks.
Cutch
Rangoon, 1,375 bxs. P. Henderson & Co.

Glucose—
Baltimore, 200 brls.
Philadelphia, 300
New York, 949

Glue—
Rouen, 56 cks.
New York, 96 brls.
Hamburg, 45 bgs.

Infusorial Earth—
Hamburg, 181 bgs.

Lead Acetate—
Hamburg, 5 cks.

Manganese Chlorate—
Rotterdam, 8 cks. J. Rankine & Son

Methyl Alcohol—
Hamburg, 1 cs.

Ochre—
Rouen, 27 cks.

Paraffin Wax—
Baltimore, 410 brls.
Rangoon, 1,200 bgs. P. Henderson & Co.

Phosphate of Lime and Rock—
Antwerp, 572 bgs.

Potassium Nitrate—
Hamburg, 57 cks.

Pyrites—
Huelva, 1,808 t. Tharsis Sulphur & Copper Co., Ld.

Soap—
New York, 10 pks.

Soda—
Rotterdam, 29 cks. J. Rankine & Son

Starch—
New York, 900 bgs. Smith & M'Kay
Antwerp, 20 284 cs.
Rotterdam, 140 J. Rankine & Son

Tallow—
New York, 50 tcs. 50 hds.

Treacle—
Philadelphia, 700 brls.
New York, 100 20 bxs.

Ultramarine—
Rotterdam 1 cs. J. Rankine & Son

Varnish—
New York, 3 brls.

White Lead—
Rotterdam, 48 cks. J. Rankine & Son

Wood Pulp—
Holmestrand, 4,800 bls.
Halifax, 1,219
Hamburg, 306
Rotterdam, 50 J. Rankine & Son
Christiania, 150

Zinc White—
Rotterdam, 35 pks. J. Rankine & Son

TYNE.

Week ending April 16th.

Antimony—
Hamburg, 494 cs. Tyne S. S. Co.

Barytes—
Antwerp, 300 bgs. Tyne S. S. Co.

Camphor—
Hamburg, 1 ck. Tyne S. S. Co.

Colours—
Antwerp, 2 cks. Tyne S. S. Co.
Hamburg. { 2 / 10 cs. / 30 dms. "

Glucose—
New York, 600 brls. Furness, Withy, & Co.

Limestone—
Antwerp, 2 crts. Tyne S. S. Co.

Paint—
Hamburg, 5 cks. / 20 dms. Tyne S. S. Co.

Phosphate—
Antwerp, 753 bgs. Tyne S. S. Co.

Sodium Nitrate—
Taltal, 15,297 bgs. J. Cameron, Swan, & Co.

Starch—
New York, 200 bgs. Furness, Withy, & Co.
Rotterdam, 82 cs. Tyne S. S. Co.

Varnish—
Antwerp, 4 kgs. Tyne S. S. Co.

White Lead—
Rotterdam, 4 cks. Tyne S. S. Co.

Wood Pulp—
Gothenburg, 358 pks.
Christiania, 1,702 bls.

GOOLE.

Week ending April 13th.

Alizarine—
Rotterdam, 125 brls. 1 cs.

Alkali—
Calais, 11 cks.

Antimony—
Boulogne, 3 cks.

Caoutchouc—
Boulogne, 8 cks.

Chemicals (*otherwise undescri*
Hamburg, 9 cks.

Colours—
Hamburg, 2 cks. 2 cs.

Dyestuffs (*otherwise undescri*
Amsterdam, 6 cks.
Boulogne, 33
Rotterdam, 369 91 cs. 3 pk.
Dunkirk, 10 bgs.

Farina—
Delfszyhl, 782 bgs.
Hamburg, 300

Glucose—
Calais, 100 bgs.
Hamburg, 31 cks.

Glue—
Boulogne, 6 bls.
Rotterdam, 40 bgs.

Indigo—
Rotterdam, 3 brls.

Logwood—
Boulogne, 383 t.
Laguna De Terminos, 418

Ochre—
Calais, 38 cks.

Phosphate—
Dunkirk, 2,400 bgs.

Potash—
Calais, 8 dms.
Dunkirk, 34 cks. 58
Hamburg, 10

Pyrites—
Huelva, 359 t.
Seville, 985

Saltpetre—
Rotterdam, 100 bgs.

Soap—
Hamburg, 2 cs.

Starch—
Ghent, 36 cs.

Yarnish—
Amsterdam, 1 cs.

GRIMSBY.

Week ending April 16th.

Albumen—
Hamburg, 1 cs.

Barytes—
Rotterdam, 100 bgs.

Caoutchouc—
Antwerp, 9 cs.

Chemicals (*otherwise undescri*
Antwerp, 10 cs.
Rotterdam, 10 cks.
Hamburg, qty.

Coal Tar Dyes—
Antwerp, 51 pks.

Colours—
Antwerp, 4 cks. 21 pks.
Hamburg, 101 2 cs. 79

Dyestuffs (*otherwise undescri*
Dieppe, 26 cks.
Hamburg, 15

Farina—
Hamburg, 75 bgs.

Tar—
Hamburg, 55 cks.

Waste Salt—
Hamburg, 1,000 bgs.

Wood Pulp—
Fredrikshald, 886 bls.

Zinc Ashes—
Antwerp, 30 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 20th.

Acetic Acid—
B. Ayres, 5 c. £12

Acids—
Hong Kong, 20 cs. £29
Pt. Elizabeth, 31 25
E. London, 27 21

Alkali—
Hamburg, 1 t. £38

Alum Waste—
Calcutta, 40 t. £93

Ammonia—
Palermo, 2 cylds. £26

Ammonia (Liquid)—
Cape Town, 25 cs. £39
Hamburg, 4 12

Ammonium Carbonate—
Paris, 1 t. 2 c. £28
Calcutta, 17 cs. 12
B. Ayres, 1 30
Rouen, 5 9 135

Ammonium Chloride—
Bangkok, 2 c. £90
Bussorah, 10 brls. 32
Melbourne, 3 cks. 24
Genoa, 1 t. 17
Lyttelton, 11 10

Ammonium Sulphate—
Ghent, 50 t. £450
Teneriffe, 10 90
Ostend, 280 15 c. 2,367

Amorphous Phosphorus—
E. London, 2 cs. £25

Anhydrous Ammonia—
Antwerp, 8 cylds. £50

Barium Binoxide—
Trieste 1 t. 16 c. £60

Bleaching Powder—
Durban, 2 t. 2 c.

Borax—
Rotterdam, { 42 cks. / 2 t. 3 c.
Sydney, 90 kgs
Hamilton, 4 t. 8
Pt. Elizabeth, 1
Cologne, 1
Newport News, 6

Carbolic Acid—
New York, { 40 cks. 3 cs. / 20 botls.

afen, 50 204
30 dms. 50

Acid Gas—
ag, 12 cyldrs. £58

'otash—
, 1 t. £20

oda—
hia, 67 t. £400
n, 2 18 c. 25
n, 1 5 21
10 80
2 5 37
8 19 102
2 12 18

s *(otherwise undescribed)*
el's, 1 cs. £10
9 pks. 27
tta, 3 kgs. 17
3, 63
115 132
e, 26 39
15 72
n, 48 34
4 cks. 51 151
, 69 178
6 31
rg, 9 98
2 t. 3 c. 73 kgs. 265
5 28
, 2 cks. 9
6 34
n, 5 kgs. 98
20 108
, 11 pks. 27
ng, 6 c. 22
5 t. 8 1 23 kgs. 18 pks. 473
10 5 t. 108
2 kgs. 15
n, 2 11
8 35
30 34
2 21
1 t. 2 c. 71

id—
1 c. £7
n, 3 18
2 cs. 1 13
en, 1 t. 111
6 cks. 58
1 5 143
12 67
2 12
m, 1 116
m, 1 6
10 10 kgs. 121

ducts—
ine
e, 6 brls. £50
25 cks. 1 cs. 318
ine Dyes
21 cks £60
e
ners, 2 pks. £31
e Oil
1 dm. £30
acene
605 cks. £2,100
m, 571 2,065
l
48 cks. £110
ste
23,500 galls. £123
25 cks 29
k, 1,700 4 cs. 1,131
ste Salts
hia, 756 bgs. £216
haline
1 ck. £12
20 12
k, 132 12 cs. 147
124 110 bgs. 236
, 180 t. £246
g, 22 cks. 8 brls. 85
wn, 42 17
e, 1,500 bgs. 358
ns 120 50
News, 564 74
ia, 1,050 341
21 385
320 t.
Dlcanne 981 1,350
hia, 300 cks. 165
k, 25 80
1,947 t. 2,154
950 cks. 392
100 60
200 49
an Blue
m, 4 cks. £19
10 24

Pyridine
Hamburg, 5 dms. £140
Antwerp, 17 cks. 194
Tar
Gibraltar, 11½ brls. £8
Pt. Elizabeth, 150 dms. 23
N. Orleans, 100 cks. 50
Wellington, 30 6
Dunedin, 5½ 20 6
M. Video, 20 12
Paris, 11 cs. 18
Durban, 180 kgs. 21
Tar Salts
Brussels, 2 cks. £25
Toluol
Rotterdam, 10 cks. £170
Hamburg, 25 puns. 435

Coal Products *(otherwise undes.)*—
Cape Town, 260 dms. £20
Boulogne, 5 cks. 20
Singapore, 20 19

Copper Sulphate—
Treport, 10 t. £166
Paris, 5 84
Naples, 5 15 c. 98
Odessa, 25 390
Bordeaux, 27 446
Calcutta, 5 firkins 6

Cream of Tartar—
E. London, 2 cs. £19
Cairns, 5 c. 19
Normanton, 15 60
Melbourne, 1 t. 78

Cyanide—
Pt. Darwin, 1 t. 9 c. £150

Disinfectants—
Brisbane, 109 dms. £36
Newcastle, 14 cs. 25
Chefoo, 84 pks. 108
Singapore, 60 dms. 29
Montreal, 61 124
Durban, 1 t. 15 c. 120 cks. 200 dms. 118
Hamburg, 50 250
Sydney, 1 c. 40
Paris, 10 15

Lime—
St. Kitts, 6 puns. £8
Antigua, 14 19

Manure—
Trinidad, 5 t. £34
Vera Cruz, 3 25
Antwerp, 11 88
Morlaix, 85 680
Pt. Elizabeth, 15 75

Nitric Acid—
Madras, 15 cs. £12

Oxalic Acid—
Madras, 5 c. £8

Oxygen—
Amsterdam, 1 cs. £15

Phosphate—
New York, 70 bgs. £44

Phosphoric Acid—
Calcutta, 4 c. £17

Potash—
Melbourne, 5 c. £16
Brussels, 7 50
New York, 10 30
Rotterdam, 2 cks. 44
Stettin, 12 26

Potash Crystals—
Oporto, 1 cs. £5

Potassium Carbonate—
Philadelphia, 2 t. 6 c. £60
Sydney, 10 10

Potassium Chlorate—
Hiogo, 50 kgs. £68

Potassium Cyanide—
Shanghai, 5 cs. £44
Canton, 3 c. 12
Sydney, 1 t. 110
Charters Towers, 7 775
Pt. Elizabeth, 5 469
Townsville, 23 8 2,640
Melbourne, 5 15 650
Tampico, 100 480
Delagoa Bay, 10 14 40 cks. 1,298
Adelaide, 1 t. 12 180
Singapore, 10 72
Rio de Janeiro, 1 2 76

Potassium Permanganate—
Bombay, 5 c. £15

Potassium Prussiate—
Yokohama, 1 t. £60
Calcutta, 6 c. 19

Salt Cake—
Oldenburg, 300 t. £170
Antwerp, 840 245

Saltpetre—
Oporto, 3 t. 15 c. £69
Hamburg, 2 40
Amsterdam, 10 13
Boston, 25 444
Oporto, 3 56

Salts of Lime—
New York, 10 c. £112

Salts of Soda—
New York, 5 c. £37

Sheep Dip—
E. London, 25 dms. £5
Newcastle, 5 t. 8 c. 200
Sydney, 2 4 120
Hamburg, 13 21
B. Ayres, 10 15 525
Melbourne, 5 7 75 cks. 300 600

Soda Ash—
Lyttelton, 9 t. 1 c. £39

Soda Crystals—
Alexandria, 1 t. 13 c. £6

Sodium Bicarbonate—
Brisbane, 10 c. £12

Sodium Sulphate—
Ghent, 150 t. £225

Sulphur—
Pt. Elizabeth, 20 kgs. £5
Lisbon, 400 brls. 278

Sulphuric Acid—
Durban, 10 cs. £10
Colombo, 1 t. 10 c. 20

Superphosphates—
Landerneau, 110 t. £392
Barbadoes, 50 138

Tartaric Acid—
Libau, 5 c. £51
Mombasa, 7 14
Brisbane, 10 56
Bombay, 2 13
Hiogo, 15 84
Yokohama, 10 56
Montreal, 3 17
Hong Kong, 1 cs. 1 kg. 11
Wellington, 3 20
Canterbury, 5 31
Fremantle, 5 28
Melbourne, 10 65

Zinc Oxide—
Sydney, 10 c. £11

LIVERPOOL.

Week ending April 20th.

Acetic Acid—
Copenhagen, 2 t. 5 c. £45

Alkali—
Philadelphia, 16 t. 2 c. 2 q. £72
Bilbao, 6 4 3 25
Piræus, 12 19 53
Salonica, 9 6 38
Bourgas, 4 18 3 20
Boston, 14 5 94
Barcelona, 7 11 3 30

Alum—
Cartagena, 1 ck. £5
Montreal, 5 t. 13 c. 2 q. 26
Santos, 1 5
Bourgas, 1 9 2 7
Galatz, 4 11 2 22
Patras, 14 3 4
Piræus, 6 10 33
Melbourne, 2 2 10
Samarang, 6 10 32
Oporto, 3 13

Ammonia (Liquid)—
Manaos, 3 q. £5

Ammonium Carbonate—
Konigsberg, 10 c. £14
Rotterdam, 15 21
Riga, 10 14
Stockholm, 2 t. 10 62
Norrkoping, 1 25
Halifax, 10 13
Valparaiso, 2 63
Rouen, 2 49
Oporto, 10 kgs. 26

Ammonium Chloride—
Montreal, 10 c. £16
Rotterdam, 5 8
Ancona, 12 21
Valparaiso, 2 —
C. C. Castle, 13 16
Genoa 3 t. 7 2 q. 59
Naples, 1 31

Ammonium Sulphate—
Antwerp, 23 t. 19 c. £210
New York, 52 455
Cartagena, 15 5 130
Honolulu, 423 7 2 q. 3,840
Cullera, 110 18 2 926
Gd. Canary, 7 65
Las Palmas, 73 10 684
Valencia, 196 9 2 1,756
Castellon, 127 7 1 1,125

Arsenic—
Oporto, 1 t. £19

Bleaching Powder—
Amsterdam, 50 cks.
Baltimore 250
Boston, 376
Cambrai, 18
Everitt, 78
Genoa, 81
Ghent, 72
New York, 313
Norrkoping, 256
Oporto, 3
Philadelphia, 142
Rouen, 82
Saltillo, 27
San Francisco, 50 brls.
Vera Cruz, 50

Boracic Acid—
Rangoon, 2 cs. £3
Rotterdam, 1 t. 24

Borax—
Galatz, 1 t. 9 c. £18
Antwerp, 1 19 1 q. 28
Stockholm, 3 4 60
Hiogo, 3 9 51
Stettin, 3 11 52
Iquique, 8 6
Montreal, 30 17 1 404
Toronto, 11 150
Savanilla, 1 cs. £5
Rotterdam, 14 t. 223
Melbourne, 1 15

Calcium Chloride—
Melbourne, 5 t. 19 c. £13
Rouen, 10 22
Calcutta, 1 2
Brisbane, 3 7

Carbolic Acid—
Baltimore, 4 t. 17 c. 1 q. £307
Lagos, 1 cs. 1 dm. 26
Sydney, 1 t. 2 c. 10
Wellington, 2 40
Hamburg, 6 13 1 4[illegible]
Odessa, 3 6 184
New York, 5 1 10 cks. 384
Rouen, 6 7 1 q. 399
Rotterdam, 4 17 98

Caustic Potash—
San Francisco, 1 t. 11 c. £45
Chicago, 1 6 35

Caustic Soda—
Alexandria, 135 dms.
Amsterdam, 10
Ancona, 10
Antwerp, 28
Barcelona, 100 260 cs.
Bari, 154
Bombay, 16
Cape Town, 4
Ceara, 30
E. London, 1 bx.
Fiume, 30
Genoa, 280
Hamburg, 70
Hong Kong, 10
Jewitt City, 50
Kansas City, 50 bls.
Leghorn, 45
Lisbon, 89
Louisville, 150
Maranham, 5 brls.
Mauritius, 20
Melbourne, 141
Messina, 10
Nagasaki, 47
Naples, 51
New York, 200
Otago, 20
Philadelphia, 20
Pisco, 30
Reval, 54 cks.
Riga, 157
Santander, 50
Santos, 10
San Paulo, 20
Savanilla, 20
Shanghai, 20
St. Stephen's, 10
San Francisco, 50 [illegible]
Sydney, 15
Talcahuano, 40
Tampico, 200
Toronto, 30
Trieste, 45
Valparaiso, 50
Venice, 15
Wellington, 5 [illegible]

Chemicals *(otherwise undescribed)*
Natal, 3 t. 10 c. £49
Barcelona, 1 29
Sydney, 1 15
Bordeaux, 4 cks. 18
Santander, 4 19 2 q. 70
Rotterdam, 14 17 2 210
Galatz, 1 10 49
Melbourne, 17 12 205
Calcutta, 11 36
Philadelphia, 13 5 398

China Clay—
Barcelona, 269 bgs.
Bombay, 188 cks.
Bordeaux 100
Boston, 934
Genoa, 40
Pernambuco, 30
Philadelphia, 266
Yarmouth, 1,500

Coal Products—
Alizarine
Sydney, 1 ck.
Aniline Salts
Boston, 10 cs.
Creosote Oil
Bordeaux, 200 cks. 500 brls.
Creosote Salts
Bordeaux, 300 brls.
Pitch
Cette, 1,221 t.
Rouen, 2 cks.
Tar
Bordeaux, 2 0 brls.
Maranham, 40 dms.
Sulina, 100

Copper Sulphate—
Cette 3,1 t. 13 c £8 665
Nantes 92 7 3 q. 1,406
Rotterdam. 5 17 2 100
Naples, 57 8 2 1,545
Brindisi, 35 2 1 540
Antwerp, 35 5 845
Ancona, 10 18 3 7
Bari, 38 11 589
Oporto, 15 5 232
Lisbon, 51 1 1 794
Rouen, 87 15 1 1,431
Leghorn, 45 5 721
Genoa, 121 10 3 1,931
Venice, 303 4,844
Trieste, 65 4 1,063
Bordeaux, 362 12 2 5,862
Piræus, 4 2 62
Fiume, 22 19 369
Halifax, 2 1 31
Metelin, 4 2 4
Cabedello, 10 10
Corunna, 2 31
Vigo, 5 13 90
Odessa, 10 102
Ghent, 4 13 2 76
Madras. 2 11 40
Stamboul, 1 15

Copperas –
Bourgas, 6 t. 16 c. 3 q. £13
Syra, 6 9

Cream of Tartar –
Halifax, 2 c £9
Savanilla, 2 kgs. 10

Creosote Oil—
Bordeaux, 94 t 3 c £1,0

Disinfectants—
Malta, 10 c. £15
Rangoon, 2 cks. 6
Bahia 2 cs 8

Dried Blood—
Mauritius, 10 t. 3 c. 1 q. £67

Guano—
Honolulu, 131 t. 3 c. £1,125

Gypsum—
Naples. 23 t. £67

Lactic Acid—
Cape Town, 1 c. £53

Magnesia—
Toronto, 10 cs.

Magnesium Sulphate—
Novo Redonda, 1 brl.
Piræus 7 cks

Manganese Binoxide
Bombay, 13 c £10

Manure –
Cullera 16 t. 14 c. 2 q £67
St. John's Nfd., 6 10 3
Bordeaux, 52 2 2
Gd Canary, 2 8
Philadelphia 1 14

Oxalic Acid—
Valparaiso. 1 ck. £20
San Francisco, 3 c. 73
Stettin, 11 3 q. 17
Boston, 18 t. 5 £50

Paint—
Alexandria, 64 dms.
Ambriz, 20 kgs.
Axim, 4 pks.
Bahia. 3 cs.
Bolama, 54
Braila, 60
Cabedello, 37
Cadiz, 40 dms.
Caldera, 19
Callao, 160 30 cs. 10 cks.
Cape Town, 6
Cavite 12
Colombo 4
Constantinople, 40 dms.
Danzig, 100 bgs.
Galatz, 70 cs.
Hamburg, 10 kgs.
Honolulu, 20 bls.
Loanda, 3
Manila, { 1 / 54 dms.
Mollendo, 8 cks.
Pavta 2
Pt. Said, 56
Praia, { 5 / 50 kgs.
Quittah. 20
Punta Arenas, 16 cs.
Rio Grande Do Sul, 6 4 cks.
St. John's, Nfld., 76 kgs.
Smyrna, 40
Sanaverry, 12 cks
Talcahuano, 20
Valparaiso, 220 30
Vera Cruz, 5 pks.
Yokohama, 120 dms.

Painters' Colours—
Constantinople, 80 pks.
Genoa, 10 cks.
Hamburg, 200 100 bgs.
Honolulu, 132
Lagos, 6
Las Palmas, 100
Leghorn, 121
Lisbon 45
Marseilles 67
Melbourne, 41
Pernambuco, 10 brls.
Porto Plata, 40 kgs.
Rio de Janeiro, 6
St. Domingo, 14
Sierra Leone, 17

Paraffin Wax—
Lisbon, 215 bgs.
Rio de Janeiro, 30 dms.
Trieste, 10 cs.
Venice, 17

Phosphorus –
Havana, 8 c. £75
Vera Cruz, 7 42

Picric Acid—
New York, { 20 cks. / 1 t. 18 c. £321

Potash—
M. Video, 5 c. £5

Potash Salts—
N. Orleans, 18 t. 9 c. 2 q £1,600

Potassium Bicarbonate –
Malaga, 2 t. 8 c. £85

Potassium Bichromate –
Rouen, 5 t. 5 c. 2 q. £176
Syra, 1 bl 8
Bari, 2 cks 16
Alexandretta, 18 c. 2 33
Yokohama, 4 t. 19 2 174

Potassium Carbonate –
New York, 10 t. 17 c. £204

Potassium Chlorate—
Hamburg, 1 t. 5 c. £18
Philadelphia, 8 15 213
Alexandria, 3 5
Ancona 1 28
Randers, 1 31
Konigsberg 15 23
Copenhagen, 2 10 82
Shanghai, 4 10 136
Odessa 5 137
Rotterdam, 5 10
Hiogo, 27 10 2[illegible]8
Riga, 13 10 414
Lisbon. 5 137
Bari. 3 6 95
Naples. 1 3
New York, 75 1,900

Potassium Xanthate—
Naples, 1 ck. £8

Salt—
Abonnema. 10 bgs
Amsterdam, 11 t.
Antwerp 10
Axim 12 10 c.
Barbadoes, 300 bgs.
Berracoe, 1,000
Bilbao, 30 cs.
Boston, 250 t.
B. Ayres, 50
Burutu. 614
Calcutta, 100
Cameroons, 123 1
C C. Castle, 3 15
Cape Lahou, 8 14
Carleton, 25
Conakry, 20
Coronel, 18 25
Ghe t. 105
Gd Bassa, 36 1
Manila, 84
New York, 680
Pt. Natal. 5
Rio Del Rey. 8
St. John's, N.B., 501
San Francisco, 50
Sulymah. 40 3
Trinidad. 68 4
Valparaiso, 3 11
Winnebah, 10

Salt Cake—
Norrkoping, 110 t 2 c. 3 q. £145
New York, 5 14 86
Philadelphia, 50 9 75
Baltimore, 117 175
Leghorn, 200 300

Saltpetre—
Cabedello, 10 c. £12
Halifax, 18 3 q. 19
Pernambuco, 2 t. 18 66
San Francisco, 3 5 66

Sheep Dip—
B. Ayres, 44 t. 3 q. £857
M. Video, 6 1 c. 131
Odessa 2 5 2 72
Newport News, 6 10 250
Calcutta, 2 16 1 70

Soap –
Addah, 70 bxs
Adran, 128 cs.
Amsterdam, 200
Antwerp, 1,900
Appam, 135
Bluefields, 471
Belize, 422
Berracoe, 50
Bombay, 110 30
Calcutta, 755 bdls.
Cameroons, 200
Canaria, 656
Cape Coast, 58
Cape Town, 1,502 3
Cette, 25
Constantinople, 200 20
Curacao, 150
E. London, 589
Grenada, 125
Honolulu, 20
Karachi, 375
Lagos, 5
Manaos, 150 2 cks.
Mandgi, 25
Manila, 2
Martadi, 421
Mauritius, 2,803
Mexico City. 1
Montego Bay, 23
New York, 1 pk.
Old Calabar, 500
Opobo, 2,000
Oporto, 10
Ottawa, 310
Para, 350 25 bdls.
Piræus, 10 pks.
Pt. Natal, 75 110
Porto Novo, 200
Pt Said, 10 dms.
Punta Arenas, 16
Rotterdam, 285
St. Lucia, 95
Sett- Cama, 1
Salonica, 16
Sierra Leone, 1
Toronto 1,000
Trinidad, 1,500
Valparaiso, 60 pks.

Soda—
Mollendo, 12 kgs.

Soda Alkali –
Barcelona, 70 bls.
St. Domingo, 17

Soda Ash—
Boston, 200 bgs. 64 cks.
B. Ayres 227 brls
Genoa 521
Hamburg, 50
Hiogo, 274 kgs.
Maranham 40
Newport News, 30
Odense, 50 bgs.
New York, 4,120 3 c 1
Oporto, 1
Philadelphia, 3,420 125
Riga 100 brls.
Rio de Janeiro, 44
Rio Grande Do Sul, 30
Rotterdam, 13 bgs.
Samarang. 1
San Paulo, 25
Shanghai, 50 kgs.
Smyrna. 100 bgs.
San Sebastian, 150 1
Sydney, 2
Talcahuano, 1
Varna. 50
Vera Cruz, 1
Yokohama, 10

Soda Crystals—
Berlin, { 50 bgs. / 30 kgs.
Brantford, 50
Brockville, 75
Halifax, 167
Pernambuco, 100
St Domingo, 59 brls
Talcahuano, 150
Toronto, 1
Valparaiso, 400

Sodium Bicarbonate—
Alicante, 45 kgs.
Antwerp, 19
Barcelona, 75
Bari, 40
Berlin. 75
Bombay. 1
Bordeaux, 10
Brantford,
Brockville, 100
Calcutta, 125
Fairwater, 25
Genoa, 25
Halifax, 107
Odessa, 740
Faris, 100
Pt. Chalmers, 100
Pt. Natal, 60
Pt. Said,
Progresso,
Rangoon, 15 bgs.
Rouen, 280 kgs.
St. John's, N.B., 6
Shanghai, 50
Sao Paulo, 50
Sydney, 100
Toronto, { 30 bgs. / 290 kgs.
Trieste, 60

Sodium Binarseniate—
Genoa, 1 ck.

Sodium Carbonate –
Boston, 56 brls
New York, 184

Sodium Chlorate –
Lisbon, 1 ck.
Reval, 50 kgs.
Rotterdam, 5

Sodium Silicate—
Mauritius, 10 brls

Sulphur—
Manaos, 3 c.
Belize, 10
Halifax, 2 t. 15
Boston, 100 4
Gd. Canary, 3
Cabedello, 5

Sulphuric Acid—
Rio de Janeiro, 1 t. 4 c.

Superphosphates –
Las Palmas, 28 t.
Teneriffe, 40
Antwerp, 4 18 c.
Havre, 15 1
Hamburg, 200
Valencia, 300

Varnish—
Antwerp, 6 cks.
Barcelona, 1 cs.
Caldera, 1
Coquimbo, 2
Madras, 5
Mauritius, 2
Montreal. 15
Valparaiso, 4

Verdigris—
Hiogo, 13 c
Melbourne. 5

White Lead—
Halifax, 61 kgs.
Salaverry, 5 cks.
Toronto, 20

Zinc Chloride—
Bombay, 10 t. 5 c.
Varna. 31 5

MANCHESTER.

Week ending April 20th.

Ammonium Chloride—
Alexandretta, 8 cks.
Aniline Oil—
Belgium, 5 dms.
France, 3
Chemicals (*otherwise unaescribed*)
Aleppo, 25 brls.
Alexandretta, 14
Hamburg, 3 cks.
Copper Sulphate—
Beyrout, 2 brls.
Glue—
Belgium, 5 cks.
Bombay, 2
Germany, 10
Holland, 12
Linseed Oil—
Alexandria, 32 brls.
Beyrout, 3
Paint—
Beyrout, 6 cks. 1 cs.
Potassium Bichromate—
Alexandretta, 14 kgs.
Soap—
France, 100 bxs.
Sodium Bicarbonate—
Beyrout, 20 kgs. 20 brls.
Turpentine—
Alexandria, 6 dms.
Zinc Chloride—
Bombay, 5 cks.

HULL.

Week ending April 16th.

Ammonium Sulphate—
Antwerp, 550 bgs.
Dunkirk, 500
Gothenburg, 50
Palermo, 100
Rotterdam, 250
Venice, 95
Benzol—
Rotterdam, 49 cks.
Bleaching Powder—
Stettin, 44 cks.
Carbolic Acid—
Amsterdam, 171 cks. 16 btls.
Chemicals (*otherwise unaescribed*)
Antwerp, 36 cs. 1 pk.
Copenhagen, 1
Christiania, 16 cks.
Gothenburg, 32 10
Hamburg, 100
Riga, 1
Rotterdam, 9 34
Stettin, 6
Stockholm, 10
Cottonseed Oil—
Amsterdam, 1,998 c.
Antwerp, 2,094
Bergen, 15
Christiania, 35
Dunkirk, 2,576
Gothenburg, 306
Ghent, 117
Hamburg, 821
Rotterdam, 997
Stavanger, 30
Dyestuffs (*otherwise unaescribed*)
Christiania, 25 bgs.
Hamburg, 5 cks.
New York, 22
Stettin, 75 bgs.
Glue—
Ghent, 20 bgs.
New York, 53 cks.
Linseed Oil—
Antwerp, 92 c.
Copenhagen, 53
Christiansund, 54
Christiania, 297
Hamburg, 247
Stavanger, 4
Venice, 36
Manure—
Copenhagen, 100 t.
Dunkirk, 3
Stettin, 210
Venice, 204
Ochre—
Hamburg, 16 cks.
Gothenburg, 5
Paint—
Christiania, 3 cks.
Painters' Colours—
Aalesund, 24 pks.
Antwerp, 24 cks. 8 cs. 30 dms.
Amsterdam, 20 1 8
Bremen, 2
Bergen, 1
Copenhagen, 29 2 1 pk. 8 dms.
Christiania, 1 3
Christiansand, 1 24 kgs. 12
Drontheim, 20
Dunkirk, 5 cks.
Gothenburg, 55
Ghent, 1 1 19
Hamburg, 2 10
Konigsberg, 5
New York, 30 2 20 pks.
Reval, 2
Rotterdam, 5 1 10 dms.
Stavanger, 10
Stettin, 98
Stockholm, 1 8
Venice, 32
Soap—
Christiania, 1 cs.
Ghent, 2
Hamburg, 1
Superphosphates—
Drontheim, 50 t.
Tallow—
Hamburg, 5 cks.
Riga, 59
Rotterdam, 12
Stockholm, 15
Tar—
Antwerp, 268 t.
Amsterdam, 5 brls.
Bremen, 60
Konigsberg, 10 cks.
Dunkirk, 22
Toluol—
Rotterdam, 24 cks.
Turpentine—
Gothenburg, 10 cks.
Varnish—
Amsterdam, 1 cs.
Antwerp, 1
Bremen, 3 brls.
Copenhagen, 1 ck.
Gothenburg, 1 cs.
Hamburg, 3 1
Stockholm, 11

GLASGOW.

Week ending April 21st

Alkali—
Philippines, 7 t. 8¼ c.
Ylollo, 7 6¾
Ammonia—
Amsterdam, 51 t.
Ammonium Carbonate
Stockholm [illegible]
Ammonium Chloride
Italy, [illegible]
Stockholm, [illegible]
Ammonium Sulphate—
Barcelona, 30 t.
Spain, 103 [illegible] c.
Valencia, 204 12½
Gandia, 101 8¾
Asbestos—
Barcelona, £47
Borax—
Christiania, [illegible]
Rotterdam [illegible]
Stockholm, £8[illegible]
Natal, 50 t. ½ c.
Carbolic Acid—
Rotterdam, £190
Caustic Soda—
Seville, 10 t. 15¼ c.
Chemicals (*otherwise unaescribed*)
Amsterdam, [illegible]
Citric Acid—
Madras, [illegible]
Coal Products
Creosote Oil
Christiania, [illegible]
Russia, 6[illegible]
Hamburg, [illegible] t. 9 c.
France, [illegible]
Naphtha
France, [illegible]
Pitch
Gothenburg, £250
Havre, 7[illegible]
Russia, 288
Tar
Russia, £740
Straits Settlements 135
Madras, 45
Dextrine—
U.S.A., £229
Farina—
Barcelona, £24
Italy, 20
Lead Nitrate—
Italy, £90
Paris 200
Linseed Oil—
Singapore, 2 t. 1 c.
Litharge—
Stockholm, £21
Magnesium Sulphate—
Paris, £51
Manganese—
Rotterdam, £95
Manure—
Italy, 9 t. 16¼ c.
Valencia, 34 12
Manila, 20 1¼
Painters' Colours—
Durban, £22
Coronel, 83
Calcutta, 25
Colombo, 88
E. London, qty.
Mauritius, "
U.S.A., 371
Paraffin Wax—
Paris, £76
Rouen, £31 10s.
Amsterdam, £115
Stockholm, 374
Fiume, 190
Italy, 506
Pretoria, 152
Potassium Bichromate—
France, £185
Ghent 118
Paris, 183
U.S.A., 204
Rotterdam, 85
Antwerp, 185
Potassium Chloride
U.S.A., £145
Soap—
Fiume, 2 t.
Sodium Bichromate—
Ghent, 11 t. 2¾ c.
U.S.A., 3 4
Sodium Sulphate—
Stockholm, £4
Sulphuric Acid—
Penang, £53
Madras, 18
Tallow—
Rotterdam, 18 t. 2 c.
Treacle—
Gothenburg, 27 t. 6 c.
Christiania 21 17¼
Drontheim, 2 19¼
E. London, 1
Natal, 3 2
Varnish—
E. London, £23

TYNE.

Week ending April 16th.

Alkali—
Copenhagen, [illegible] t. 7 c.
Christiania, 1 1
Alum Waste—
Copenhagen, 44 t. 4 c.
Odense, 15 5
Anthracene—
Rotterdam, 37 t. 17 c.
Antimony—
Rotterdam 5 t.
Hamburg, 5
Christiania, 10
Arsenic—
Copenhagen, 1 t. 1 c.
Barium Binoxide—
Hamburg, 5 t. 7 c.
Barytes—
Hamburg, 1 t.
Bleaching Powder—
Copenhagen, 1 t. 5 c.
Konigsberg, 37 7
Aalborg, 3 2
Bergen, 5 12
Rotterdam, 17 15
Odense, 15
Hamburg, 8 12
Caustic Soda—
Copenhagen, 1 t. 5 c.
Vera Cruz, 33 9
Odense, 1 14
Hamburg, 114 4
Ibrail, 4 13
Christiania, 15 5
Chemicals (*otherwise unaescribed*)—
Sebastopol, 10 c.
Genoa, 11
China Clay—
Copenhagen, 10 t. 10 c.
Colours—
Civita Vecchia, 1 t. 6 c.
Iron Oxide—
Sebastopol, 1 t.
Litharge—
Hamburg, 1 t. 18 c.
Christiania, 6
Magnesia—
Copenhagen, 3 c.
Hamburg, 11
Ochre—
Bergen, 2 t. 2 c.
Paint—
Civita Vecchia, 2 c.
Stavanger, 8
Rotterdam, 10 t.
Christiania, 4
Paraffin Wax—
Batoum, [illegible] t. 1 c.
Rosin
Sebastopol, 7 t.
Saltpetre—
Aalborg, 5 t.
Soda—
Rotterdam, 10 t. 7 c.
Constantinople, 12 3
Christiania, 2 18
Genoa, 9 16
Soda Ash—
Konigsberg, 192 t. 8
Rotterdam, 5 8
Hamburg, 3 10
Sulphur—
Christiania, 350 t.
Superphosphates—
Christiania, 20 t.
Tallow—
Genoa, 8 t. 11 c.
White Lead—
Copenhagen, 1 t. 8 c.

GOOLE.

Week ending April [illegible]

Chemicals (*otherwise unaescribed*)
Amsterdam, 40 cks.
Ghent, 3
Coal Products (*otherwise unaescribed*)
Amsterdam, [illegible]
Antwerp, 103 cks.
Boulogne, 30 [illegible]
Hamburg, 29
Rotterdam, 111
Colours—
Amsterdam, [illegible] cs.
Ghent, 3 cks.
Dyestuffs (*otherwise unaescribed*)
Ghent, 3 cks.
Rotterdam, 100 bgs.
Manure—
Antwerp 200 bgs.
Ghent, 629

GRIMSBY

Week ending April [illegible]

Alkali
Rotterdam, [illegible]
Chemicals (*otherwise unaescribed*)
Antwerp, 6 kgs.
Dieppe, 3 cks. [illegible]
Coal Products (*otherwise unaescribed*)
Dieppe, 1 kg. 26 cks. [illegible]
Hamburg, 12 bls.
Colours—
Antwerp, 1 ck 3 kgs.
Gothenburg 1
Rotterdam, 1 [illegible]
Hamburg, 3 cks. [illegible]
Manure—
Esbjerg, 1,000 bgs.
Pitch—
Antwerp, 105 t.

PRICES CURRENT.

WEDNESDAY, April 27th, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3½
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	2½
Arsenic, white powdered	nett per ton	18	10	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	15	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	8	15	0
„ „ (grey) Hull	„	8	12	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	7	0	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	10½
„ 50/90 „	„	0	1	0
Carbolic Acid (crude 60°)	per gallon	0	2	1
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	3
Crude Naphtha 30 % @ 120° C.	„	0	0	5
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	2	19	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	4½
Copper	per ton	52	1	3
„ Sulphate	„	16	10	0
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	24	0	0
„ (distilled S.G. 1250°)	„	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	16	0	0
„ Litharge Flake (ex ship)	„	18	0	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	0	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	6	0	0
„ „ (grey) (ex ship	„	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	10	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	3	8
Oils:—				
Cotton-seed	per ton	17	5	0
Linseed	„	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium (metal)	per oz.	0	3	7
„ Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¾
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	10	0
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2¼
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ „ (f.o.r. w'ks.)	4	2	6
„ „ (Soda Crystals)	„ „ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	11	5	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3¾
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „ (ton lots)		8	0	0
„ „ (70 % Caustic Soda) „ „ „ (ton lots)		7	2	6
„ „ (60 % Caustic Soda) „ „ „ (ton lots)		6	2	6
„ „ (pure liquor 90° Tw.) „ „ (ton lots)		3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	19	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	10	0
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	68	10	0
Zinc (Spelter)	„	19	0	0
„ Chloride (solution, 100° Tw.)	„	5	17	6
„ Sulphate, Crystal	„	6	0	0

THE

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Notices.

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Communications for the Editor, if intended for insertion in the current week's issue, should reach the office not later than **Tuesday morning.**

Articles, reports, and correspondence on all matters of interest to the Chemical and allied industries, home and foreign, are solicited. Correspondents should condense their matter as much as possible, write on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication. Sketches should be sent on separate sheets.

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

DROWNING MEN CATCH AT STRAWS.

THERE is to be a change in the constitution of the Petroleum Committee. Mr. Macdona has to go away to China, and Mr. Royds, it seems, is to replace him at the eleventh hour. Yet no more evidence is to be heard, and nothing remains but—the decision. To introduce a new member at this stage is like introducing a new juryman after all the evidence has been heard and the judge has summed up. The intention with which Mr. Royds has been added to the Committee is, of course, hidden. But the fact, at any rate, is perfectly clear—namely, that, however dutiful he may be, he can do nothing but vote. A sharp eye will be kept on this voting. It is expected that Mr. Collings will declare for non-interference with the flash-point, and the high-flash advocates, led by Mr. Ure, will probably prepare a separate report advocating legislation to raise the flash-point.

We notice a contemporary essays to whitewash the late Col. Majendie, but as we decided last week to let the Colonel's share in this matter rest, we shall adhere to this decision. Our contemporary is well meaning, no doubt, but its remarks only provoke further unpleasant criticism instead of allaying it. As far as the effects of our contemporary's feeble endeavours will concern the issue at stake, they may be ignored, in fact even welcomed, as they only bear additional testimony to the extreme inwardness of its ignorance, the surface of which we have scratched more than once.

Personally we do not care two pins for the report of the Petroleum Committee now. The one thing needful—to arouse public interest—has been done. Strong, determined, and wealthy opposition has been raised against the Richest Baptist on earth and his *clique*. Safe oil at the price of the American naphtha compound, called petroleum, is now selling all over this country, and even some members of Parliament have awakened to the fact that this question is now of sufficient importance to influence votes in many districts; a point which Mr Jesse Collings might not care to ignore completely.

In addition to this the American dovecote is fluttered by the action of other countries. The bile of the U.S. Consul in China has been stirred by the way Batoum oil is "cutting" the American product in the Far East. The British Consul at Amsterdam also reports that the Dutch Government remains as firm as ever in its refusal to grant any concession in Netherland India, to a company under the control of the American Monster Monopoly. It remains to be seen whether the financial power of the Standard Oil Company can be effectively resisted by such steps, but the Government seems quite determined to use all possible means to this end, and the course which it has adopted will certainly be a popular one, threatened as Netherland India is by an *imperium in imperio* of this description. The agitation against the

Standard Oil Company's monopoly, in so far as this inflicts on this country all the dangers and disasters caused by an exclusive supply of low flashing oil, is a *constantly increasing one*. What is more, the good and subservient German Government that has so long obediently bowed to the American Juggernaut is getting stiff-necked and rebellious. We are given to understand that the Government has recently granted certain facilities in the shape of a reduction of the tariff for the transport of Russian mineral oils on its railways, that through rates for carrying kerosene have been established, and that other measures of a favourable nature in respect to the passage of mineral oils across the Russo-German frontier have been granted. An increase in the Russian oil trade with Germany is almost sure to result, for it is hardly thought that American oil will then be able to compete as it now does with the Russian product, more especially in the markets of the Eastern provinces, which will thus be placed in a position to draw their supplies exclusively from Russia.

No wonder the Standard Oil Company is making such desperate efforts to keep our Government hoodwinked, yet we almost feel disposed to throw helping straws in their way, because the current is strong, and even a fully-manned boat could not save them from the whirlpool of public opinion which awaits them.

After the whirlpool has finished with them, the officers of the Public Control Department of the London County Council will see to the remains. They were low flash advocates at one time, but they are decidedly the reverse now, and the Standard Oil Company have to thank their own superlative arrogance for the conversion.

ASBESTOS "SALAMANDER" DECORATIONS.

THE extreme utility of asbestos as a protection against fire is now universally accepted, but it is pleasing to be able to see so valuable an agent applied in decorative art without impairing in any way its utilitarian virtues. The "Salamander" decorations for ceilings

VICTORIAN.

staircases, and partition panels, as made by the United Asbestos Co., Ltd., Billiter-street, E C., are a striking combination of the useful and the beautiful. The former quality has recently been strikingly demonstrated in connection with the fire at the Burlington Hotel, Dublin. Mr. J. J. Farrall, M.R.I A.I., reporting on this fire, says:—

"The fire originated in the kitchen under the buffet, and passed up the staircase into it, and thence to the upper part of the establishment, destroying all woodwork and furniture in its course. The ceiling of the buffet, more especially where surrounding the staircase, must have been subjected to a tremendous heat, notwithstanding which it is practically uninjured by the fire, although it has been torn and mutilated by reason of the large quantities of water thrown upon the floor above by the fire brigade. I removed a piece of the decoration from the portion of the ceiling which was subjected to the greatest amount of heat, and had been torn from its position by the water as before described, and found that it was uninjured, although torn and discoloured. Taking everything into consideration, I am decidedly of opinion that this fire would have spread to the upper portions of the building, before the services of the fire brigade could be availed of, had it not been for the fireproof qualities of the ceiling covering of the buffet, and I shall have no hesitation in recommending the adoption of similar decorations."

The artistic nature of these decorations will be seen from our illustrations, which are a random selection from about 100 designs, most of which are far more elaborate and ornate.

CHIPPENDALE.

Special attention should be drawn to the great height of relief and to the excellent plaster effects

The panels are laid with great ease owing to the fibrous nature of the *Italian* asbestos of which they are composed. All these decorations are treated with a special size before leaving the works, thereby effecting a great economy in paint and varnish

It is with something akin to pride that we see such elegant and useful articles produced from an industrial product which is generally clothed with all the inartistic, dull and prosaic associations attached to such common-place matters as fire prevention, etc. In future, asbestos should convey to most minds something more interesting and attractive than boiler-coverings.

Obituary.—We much regret to learn of the death of Mr. William Allen, engineer, Union Brass and Iron Works, Great Ancoats, Manchester, in his 70th year. The interment took place at Philips Park Cemetery on Thursday last.

BRITISH FIRE PREVENTION COMMITTEE.—The British Fire Prevention Committee is an influential body, with offices at 7, Waterloo Place, Pall Mall, S.W., which has been formed for the purpose of dealing with all matters relating to fire protection, but having special regard to the prevention, as distinct from the extinguishing of fires. According to the provisional rules the main objects sought by the committee are as follows:—To direct attention to the urgent need for increased protection of life and property from fire by the adoption of preventive measures. To use its influence in every direction towards minimising the possibilities and dangers of fire. To bring together those scientifically interested in the subject of fire prevention. To arrange periodical meetings for the discussion of practical questions bearing on the same. To establish a reading-room, library, and collections for purposes of research, and for supplying recent and authentic information on the subject of fire prevention. To publish from time to time papers especially prepared for the committee, together with records, extracts, and translations. To undertake such independent investigations, and tests of materials, methods, and appliances as may be considered advisable. To facilitate the formation of centres for any of the special interests involved, to offer such technical information as these interests may require, and to issue notices, warnings, &c, for their especial benefit. To retain skilled advisers for the inspection of buildings or appliances where independent advice is desired. The list of persons who have already joined the committee not only contains a large number of names, but shows that the movement has had encouraging support from the technical professions. The executive committee, of which Mr. Edwin O. Sachs is chairman, is considering the definite arrangement of a series of independent tests with fire-resisting materials.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Treating Fish and Fish Offal. W Shedlock. 8,981. April 18.
Electrolytic Production of Chlorates. J. Brock and the United Alkali Co., Ltd. 9,002. April 18.
Caustic Alkalies from Alkaline Aluminates. D. A. Peniakoff. 9,003. April 18.
Chemical Manure. C. G. T. Dixon, J. Crone, D. C. Taylor, and F. Williams. 9,033. April 19.
Producing Acetic Acid. G. Scott. 9,073. April 19.
Cyanogen from Coal Gas. J. Büeb. 9,075. April 19.
Treating Sewage, etc. W. Watson. 9,126. April 20.
Separating Nickel from Cobalt A. Coehn and E. Salomon. 9,153. April 20.
Distilling Sewage Sludge. C. Chester and F. A. Keil. 9,201. April 21.
Manufacture of Chlorine and Caustic Soda. J. Plumber. 9,211. April 21.
Producing Aluminium. J. Plumber 9,212. April 21.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improved Manufacture of Calcium and other Carbides and Bye-products Obtained thereby. A. J. Boult, 111, Hatton Garden, London (communicated by R. Memmo, 24, Via Napoli, Rome). Eng. Pat 24,077. Oct. 19, 1897.

A pure graphite crucible is fixed in the usual furnace setting It is contracted towards the top, and the bottom, which is movable, is insulated so as to prevent the formation of lateral arcs between the walls and the carbons. The latter dip vertically into the crucible, and are provided with the usual raising and lowering devices. The crucible is covered by a gas-tight hood, which collects the gases given off, so that they may be utilised. Slaked lime and powdered carbon are mixed with a liquid and pressed into bricks, which are dried, broken, and fed through a hopper into the furnace. There are two figures.

Improvements in Trays for Clay Presses used in the Manufacture of China and Earthenware. S. B. Furnival, Cobridge, Burslem. Eng. Pat. 16,648. July 13, 1897.

Instead of using trays made of wooden slabs ribbed or fluted on both sides, the trays are built up of strips of wood fastened to a suitable framing and placed about ¼-inch apart, so as to allow the expressed moisture to escape from the slip. There are eight figures illustrating the construction of the frames and the fixing of the strips.

Improvements in the Manufacture of Fused Zinc Chloride. F. M. Lyte, 60, Finborough-road, South Kensington. Eng. Pat. 11,190. May 5, 1897.

The perfect dehydration of the zinc chloride is aimed at, so as to avoid the explosions which the presence of even traces of moisture produce during the electrolysis of the fused chloride. Dehydration by evaporation alone is never complete, so the fused chloride is digested over fused metallic zinc. This may be performed in the cell described in the patentee's specification 7,594/93, and the process is greatly assisted by reversing the direction of the current so as to make the zinc the anode, and the carbon the cathode. The anhydrous zinc chloride is subsequently drawn off into a separate cell to be electrolysed.

Improvements in the Manufacture or Regeneration of Chromates or Bichromates from Waste Battery or other Liquors, or from Chrome Alum or Sesqui-Salts of Chromium. J. V. Johnson, 47, Lincoln's Inn Fields, London (communicated by H. Dercum. 1,725, Master-street, Philadelphia, U.S.A.). Eng. Pat. 3,801. February 15, 1898.

The waste battery liquors are neutralised with milk of lime, the end of the reaction being checked by litmus paper, as the lime must not be added in excess. Without filtering off the precipitated sulphate of lime, bleaching powder is added. The oxidising action begins in the cold, but is facilitated by heat. The calcium sulphate is then filtered off, and the liquors concentrated to crystallising point, and the regenerated bichromate crystallised out. If necessary it may be re-crystallised to remove any traces of zinc that may be present. The amount of bleaching powder depends upon the strength of the liquors; thus a solution containing 13·42 grams of chromium oxide required 38 04 grams of bleaching powder, containing 28 % of available chlorine. If there is a sufficient supply of the green salts which separate in the battery cells, they may be dissolved to form a concentrated solution, and oxidised without previous neutralisation.

Apparatus for the Electrolytic Treatment of Bleaching Liquids. M. Haas, Markt-strasse, Aue, Saxony. Eng. Pat. 1,697. January 21, 1898.

In the usual cell divided into a number of compartments by upright electrodes so fixed as to cause the liquid to traverse a zigzag path, there was great liability to short circuiting owing to the deposit of slime at the bottom of each compartment. The electrodes are therefore supported in the middle of the liquid on non-conducting blocks, with alternate openings for the passage of the liquid. The slime can then collect at the bottom of each compartment without any evil effects, and be removed from time to time. The fact of the tops of the electrodes being covered also favours the absorption of the chlorine gas. There are three figures.

Improvements in the Process of Manufacturing Cements. P. M. Justice, 55, 56, Chancery-lane, London (communicated by the Lithosite Manufacturing Co., St. Louis, Missouri, U.S.A.). Eng. Pat. 1,378. January 18, 1898.

The mother liquor of sea water, as free from salt as possible, so that it essentially consists of magnesium salts, is evaporated to about 67°Tw. and one-third or one-fourth its weight of magnesia added. The mixture is then heated further to drive off as much water as possible, forming soft porous lumps. These are mixed with calcined magnesite, in the proportions of 1 : 2 or 1 : 3, and ground to a fine powder, which can be used forthwith as a cement. Commercial chloride may, of course, be employed direct, but the calcium chloride present must be decomposed with oxalic acid or ammonium oxalate to prevent subsequent sweating of the cement. It is advisable to add 10 % of ground burnt clay during the process, to check the tendency of the magnesium chloride to crystallise during the expulsion of the moisture. An alternate method is to add 10 or 15 % of boracic acid to the sea water mother liquor, and proceed as above, only using the magnesite in the proportions of 1 : 3 or 1 : 4.

Improvements in Non-conducting Coverings for Boilers, Pipes, and other Purposes. J. R. Green, 16, Providence-street, Coventry. Eng. Pat. 15,917. July 5, 1897.

The waste calcium hydrate obtained from papermakers, tanners, bleachers, etc., is carbonated, mixed with shale, etc., waste, hair, asbestos, or other fibrous material, and grain mill sweepings. A cement composed of 50 % waste carbonate of lime, 40 % asbestos, and 10 % mill sweepings has given good results on boilers, with a two-inch layer.

Parliamentary Jottings.

THE DEATH OF A MATCH-DIPPER.

IN the House of Commons this week Sir C. Dilke asked if the Home Secretary's attention had been called to the inquest concerning the death from phossy-jaw of a match-dipper, aged twenty-two, employed at Bryant and May's, and whether the time had come to prohibit the manufacture and importation of the class of matches which required the employment of the more dangerous kind of phosphorus.

Sir M. White Ridley said his attention had been called to the inquest. The explanation given by the factory doctor for not notifying the case was that he was not sure of the diagnosis. That seemed to be far from satisfactory, where special rules required every case of necrosis to be reported. No other case of phosphorus poisoning had been reported since the passing of the Act of 1895, and the evidence before him would not justify the unconditional prohibition of the use of phosphorus.

COMPULSORY LICENCES UNDER THE PATENT ACT.

Mr. Cawley asked the President of the Board of Trade whether the decision of the referee in the test case Levinstein *v.* Meister, Lucius and Bruning for a compulsory licence under section 22 of the Patent Act, 1883, and which was promised on 29th March in a few days, had yet been given.

Mr Ritchie replied that the referee had recommended the granting of a licence on certain conditions. Those conditions were too long to explain, but he would be happy to show them to the hon. member. He proposed to act on the recommendation.

ANSWERS TO CORRESPONDENTS.

THREE COCKS.—We have never heard of an accident, nor do railway companies or shippers raise serious objections (except those engaged in coasting trade); but of course it comes under the heading of Inflammable bodies, as it flashes below 73° F., the Government limit in the Inflammable Liquids Bill, and so is placed in Class A in the railway companies' schedules. We commend the "Handling of Dangerous Goods" (Crosby, Lockwood & Sons, 7, Stationers' Hall Court, E.C.) to you. It gives many particulars, classifications of goods, dangerous goods refused by certain railway companies, and similar information. Actually, we know of no difficulties being experienced by others who sell and ship.

S. P. (Galicia).—(1) This week. (2) Will appear shortly.

H. V. (Dukinfield).—Procter and Rylands, Chester; and also Chemical Works, late H. & E. Albert, 150, Leadenhall-street, E.C. Kainit, 47s. 6d. to 50s. 10n. Supers, 36s. to 50s.

Legal Intelligence.

HIGH COURT OF JUSTICE (IRELAND).

CHANCERY DIVISION.

(*Before the Master of the Rolls.*)

T. G. WEBB *v.* KYNOCH AND CO., LTD.

(*Concluded from page 302.*)

The distinction between plaintiff's process and that of his predecessors was admirably pointed out and illustrated by the evidence of Mr. Imray, Dr. Emerson Reynolds, and Prof. Tichborne, which was not discounted by any independent testimony of similar weight. Dr. Emerson Reynolds and Prof. Tichborne, who are not identified with plaintiff's patent, stated as experts very clearly as to the novelty and efficiency of his combination in most of the parts which I have adverted to, and which as far as I have gathered constitute the most important facts of the case. The point for decision is whether under these circumstances the plaintiff's patent is valid or not. Not a single part of it, taken alone, is in principle new. The system of inclined planes or stepped platforms, with vessels over-flowing from the highest down to the lowest, is old, it was not only used by Chance, Garroway, and Veitch, but was in use for concentrating boracic acid at least from early in the present century. The use of open vessels as distinguished from retorts is not new, Garroway had it. The use of movable tubes is not absolutely new, Chance has that; it is not in the specification or drawings, but it is at present used in fact and in practice. A suggestion was made that having regard to the mode in which defendants had presented their particulars, the question was not what was done under Chance's patent, but what was the specification and that I should hold the specification as describing a fixed tube, I do not think the contention well founded. It is impossible to give to the word fixed, as used, and taking it in connection with the drawings, a meaning which would exclude it as really used; still the mode of holding is different from plaintiff's arrangement. Chance's is passed through a hole in the receiving vessel and suspended there by its own gravity, not resting as in plaintiff's plan as a spoon rests in a teacup. One would certainly say the weight of the tube in Chance's case, even after allowing for the high specific gravity of the fluid surrounding it, must be an additional source of danger of breakage, whether resting or during removal, when a removal does occur. These considerations do not affect the truth of the proposition that in using movable tubes for conveying surface liquor from the top of the vessel to the bottom of the next, and so on, plaintiff was adopting an expedient previously known. The plan of plaintiff's beaker in a hot flue is also not new. Garroway had it, but the plan dividing the hot chamber into the hot chamber properly so called and the vapour chamber is a material advance upon Garroway, and it is agreed that the object is not a new but an old object. There is, therefore, no part of the plaintiff's apparatus which is absolutely new in itself, in the sense of being something which is a separate invention, for which a patent could be obtained, though the use of separate tubes conducting the surface liquor from one vessel to the bottom of the next, and the extreme simplicity of the contrivance, is no objection to it, but the reverse. The case resolves itself into this: Can there be a valid patent for such a combination as plaintiff's arrangement, for if there can, I think he is entitled to succeed. He has by anxious thought and costly experiment succeeded in doing more perfectly than any other person what many have tried to do. His apparatus is self-contained, compact, economical, and efficient when things go right; and when an accident occurs, the danger to workmen is minimised, and repairs can be effected, the evidence satisfies me, with very little delay as compared with any other system. No part of it is absolutely new, but the combination is new and the patent is for a combination In Crave & Price 1st Webbs Patent Cases, page 393, Chief Justice Tindal says: "We are of opinion that if the result produced by such a combination is either a new article or a better article or a cheaper article for the public than that produced before by the old method, that such combination is an invention or manufacture intended by the statute, and may well become the subject of a patent. Such an assumed state of facts clearly falls within the principle exemplified by Abbott (C.J.), where he is determining what is or what is not the subject of a patent, namely, it may perhaps extend to a new process to be carried on by known implements or elements acting upon known substances and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or a more useful kind, and it falls also within the doctrine laid down by Lord Eldon that there may be a valid patent for a new combination of materials previously in use for the same purpose, or even for a new method of applying such material-. But the specification must clearly express that it is in respect of such new combination or application." That passage from Crane & Price is quoted with approbation by Lord Justice James in Murray & Clayton in 7th Chancery Appeals. He says at page 583, differing from the decision of the Vice-Chancellor:—"Before proceeding to consider the last question, that of infringement, it is necessary to refer to the Vice-Chancellor's judgment. His Honour, after referring to the evidence of the witnesses who spoke of the plaintiff's machine in terms of unqualified commendation, and said that according to their knowledge it was a novelty and an improvement upon all the trick-making machines to which they were acquainted, says, 'But assuming all this to be true, I do not think that it can therefore be held that the plaintiff was entitled to the monopoly which that patent purports to grant. No doubt a combination of things not in themselves new, but which combination is perfectly new in the form in which the inventor has cast it, and produces new and more beneficial results may be the subject of a patent, but I am aware of no case in which it has been held that the arrangement of common elementary mechanical materials, and that the construction by means of such arrangement of a machine which produces no other result than that which had been previously accomplished by other mechanical arrangements or constructions would support a patent. If it were so there would be no protection to the public or to earlier patents against the ingenuity of any artizan who might have the skill to arrange the old mechanicism in a new shape, and thereby to appropriate to himself the fruits of previous inventors in the proper sense of the term, and so that the privilege and reward which the law concedes to thought and invention might be bestowed on mere skill in handicraft. I find it very difficult to reconcile this proposition to what has been said by many judges in many cases, and more particularly in the case Crave *v.* Price. Now, no doubt, Crave *v.* Price has been questioned, and if I may be permitted to say so with all respect to the very powerful tribunal which decided that case I have never been satisfied with the decision. That, however, was simply because I could not see how the word combination could be properly applied to the introduction of a particular kind of fuel into a machine which had been patented for the use of every kind of fuel in the making of iron, and neither I nor, as far as I am aware, any other judge has ever questioned the principle upon which the case was decided, and which was thus laid down in the judgment of the Court delivered by Chief Justice Tindal." Then he quotes the passage to which I have referred, and Lord Justice James continues: "That being so I cannot concur with the Vice-Chancellor in saying that the patent of the plaintiff is to be invalidated upon the principle which he has laid down, because if the evidence is to be believed what the plaintiff has done is that he has produced a thing in a more expeditious manner, in a more economical manner, and of a better quality;" and then he goes on to discuss the question of fact. That the patent is not bad merely by reason of its not giving the terms and showing exactly what part of the combination is claimed is shown by Harrison and Anderson, 1st Appeal Cases, 574. Lord Cairnes says, page 577, "The first is an objection said to be founded upon the case of Foewell *v.* Bostock decided by the late Lord Westbury when Lord Chancellor. It is said to have been determined in the case that where there is a patent for a combination that there must be discovery or explanation of the novelty, and the specification must show what is the novelty and what is the merit of the invention. I cannot think that, as applied to a patent for a combination, there is or was meant to be effect of the decision in Foewell *v.* Bostock. If there is a patent for a combination the combination is itself *ex necessitate*; the novelty and the combination is also the merit, if it be a merit, which remains to be proved by evidence." Lord Chelmsford says, page 579:—"With great submission, the claim of a combination, or arrangement of part of a machine, without more, is in itself a sufficient description of a novel invention—namely, of a combination of parts which have never been combined in the same manner before. The explanation of the novelty is to be found in the description of the arrangement of the parts in the body of the specification." Lord Hatherley, at page 583, says:—"Well, my lord, that being the case, the judges extend, as it appears to me, with great respect, the doctrine of Foewell *v.* Bostock in this application of it to the present case. It was there held, and that I think was all that was held, that it is not competent to any man to take a well-known existing machine, and having made some small improvement, to place that before the public and say, 'I have made a better machine. There is the sewing machine invented by so and so; I have improved upon it; that is mine It is a much better machine than his.' That will not do. You must state clearly and distinctly what it is in which you say you have made an improvement. To use an illustration which I think was adopted by Lord Justice James in another case: it will not do if you have invented the gridiron pendulum to say you have invented a better clock than anybody else; not telling the public what it is you have done to make it better than any other clock which is known. That principle was laid down in Foewell *v.* Bostock, and I do not think anything further was intended to be determined in the case. It could not have been meant in the case to say that where that happens which may well happen to a person arranging his machine in a totally different way from the way in which it has ever been before arranged, although every single particular of the machine is a well-known implement, producing an improved effect by a new arrangement, that the new arrangement cannot be the subject of a patent. It

may be that the levers may be perfectly well known in their mode of action, and it may be that all the other separate positions of the machinery to which the patent relates may be perfectly well known; but if he says, "I take all these well-known parts and I adjust them in a manner totally different from that in which they have ever before been adjusted—I have found out just what it is that had made these parts (though they may have been used in machines) fail to produce their proper effect, and it is this, that they have not been properly arranged. I have therefore considered the whole matter, and put all these several parts together in a mode in which they never were before arranged, and have produced an effect by so doing, I apprehend it is competent for a man so to do, and that it would be perfectly impossible for him to say what is new and what is old, because *ex concessis* it is all old. Nobody ever before used it in the manner in which he has used it. That, my lords, I apprehend is the principle of a patent for a combination." Lord Penzance, at page 593, says:—"But the case of Lister *v.* Leather has been cited and commented upon as an authority for the proposition to a patent for a combination covers the particular or subordinate combinations of parts, or at least such of them as are new in material. It is plain, however, that the case did not go this length; it decided nothing more than this, that though the patent is for a combination it does not follow that there can be no infringement of it unless every part of it, the combination, without exception is pirated. What the Court said was that, taking a subordinate part or parts might be, not that it necessarily would be, an infringement of the patent, and that whether it would be so or not depended, as the Court of Errors said, upon what the parts taken were, how they contributed to the object of the invention, and what relation they bore to each other. This only amounts to saying that on a question of infringement the essential nature of the invention will be regarded, that there may be cases in which, though the patent is for an entire combination of numerous parts, a collusive imitation of the invention may be effected, though some detail of the combination is omitted or changed, which is a doctrine familiar enough in patent law." That last passage seems to me to have a bearing upon the question of the validity of plaintiff's patent and upon the question of defendants' infringement. The same principle, in substance, is laid down in Proctor *v.* Bennies, 36th Chancery Division, from which I do not quote. It is useless to pursue the search for authority further. It is not to be denied that you can have a valid patent for a machine producing an old result by means of machinery the parts of which are not new, provided the combination is new, and that it is the result of independent thought, ingenuity, and skill, and produces in distinctive form a more efficient result, rejecting what is bad and useless in former attempts, retaining what is useful, and uniting in an apparatus which on the whole is novel. Plaintiff here claims a new and improved apparatus for concentrating sulphuric acid, and I think, upon the principles which I am bound to apply to the case, that he has sustained his case.

Mr. Ronan, Q.C. (for the Plaintiff).—I will ask your lordship for a certificate under the 31st section of the Patents Act as to the validity of the patent in question.

The Master of the Rolls: Yes.

Mr. Ronan, Q C: There was a motion for an interlocutory injunction in this case. Your lordship postponed the hearing of the action. The order to stand over until the trial of the action did not contain the ordinary clauses that the costs should be costs in the action.

The Master of the Rolls: I will make them costs in the action.

Mr. Ronan, Q.C.: The next matter is that, having regard to the importance and difficulty of the case, I submit it is one in which you will act on the Gas case principle and award costs on the higher scale. We had in the case to bring experts from England.

Mr. Gordon, Q.C.: I don't think that this is a case in which the principle applies. The action is in reference to a matter that is close at hand.

The Master of the Rolls: I am very certain if I had decided in your favour I would have given these costs.

Mr. Gordon, Q.C.: About the costs of the action. I think the motion, notwithstanding the result at the present time, is quite unnecessary. Your lordship may remember that the action commenced so far back as the 28th July, 1896. Plaintiffs themselves have shown, by lying back until March, 1898, that there was no necessity for hurry, that they were dealing with a company which was perfectly solvent, that they knew that and they did not seem to consider themselves that there was any great necessity for stopping the use of the machine. I ask your lordship not to give costs of the motion. I ask your lordship, on behalf of defendants, will you put a reasonable stay on this matter? They will keep all accounts as to damages that they may be directed to do.

The Master of the Rolls: As regards damages, the arrangement may be taken apart from any question, because if you had taken plaintiff's royalty it would be very difficult to assess damages in the case. That won't prejudice you, of course.

Mr. Gordon, Q C.: Your lordship will give me a reasonable stay. We are proceeding for an appeal, if we serve notice of appeal within a reasonable time. It will take us some time.

The Master of the Rolls: What would be a reasonable time - a fortnight?

Mr. Gordon, Q C.: We would rather say a month.

The Master of the Rolls: I don't know what the state of the list of the Court of Appeal will be then. I think a fortnight will do.

Mr. Gordon: Of course, if there were any danger—but my friends know there is not. My clients are well able to bear anything given against them, and seeing we may have to pay for royalties, we must pay in the end if we are defeated, but we should like to have a reasonable time to consider it.

Mr. Matheson, Q.C: Say three weeks.

Mr. Gordon, Q C.: Yes.

Mr. Matheson, Q.C.: With reference to the matter of the motion, it was evidently an omission not putting in costs to be costs of the cause.

The Master of the Rolls: It was nothing very different from usual.

Mr. Matheson, Q.C.: It resulted in our getting an inspection.

The Master of the Rolls: Yes, I think the costs of both parties should be costs in the cause. If you prefer the form of certificate—

Mr. Ronan, Q.C.: Suppose your lordship will give the form in Seaton?

The Master of the Rolls: I think the certificate has to be transmitted to the patent office in England.

Mr. Ronan, Q.C.: The effect is that when a future action is brought we get our costs between solicitor and client.

The Master of the Rolls: I think it is a case for costs with the higher scale, the costs of the motion to be costs in the cause.

THE OSWALDTWISTLE SEWERAGE CASE.

IMPORTANT FINAL DECISION.

THE House of Lords gave judgment last week in the appeal of Passmore and Others *v.* The Oswaldtwistle Urban District Council. The action out of which the appeal rose was for a mandamus commanding the present respondents to cause to be made such sewers as may be necessary for effectually draining their district for the purposes of the Public Health Act, 1875, and to give facilities to enable the plaintiffs to carry the liquid proceeding from the White Ash Paper Mill into the sewers under their control. The respondents denied their liability to provide sewers for this purpose, and said the plaintiffs' remedy lay under section 299 of the Act, which enabled them to complain to the Local Government Board, who, if satisfied that the plaintiffs had a case, could, after inquiry, fix a term for the performance of the duty so neglected. That, the respondents contended, was the only remedy open to the plaintiffs. Mr. Justice Charles granted a mandamus, but the Court of Appeal reversed that decision, and dismissed the action, with costs.

The Lord Chancellor, in moving that the appeal be dismissed with costs, said there was nothing in the Public Health Act which would justify the issue of a mandamus. The whole purview of the Act made impossible the application of such a remedy. The principle upon which the application arose was that a specific remedy was provided of a kind which was very familiar to our law, and the principle was accurately expressed in the Bishop of Rochester case. The principle was that performance of a statutory obligation could not be conferred in any other manner than that prescribed by a statute. The obligation was created by this statute, and it was nothing to the purpose to say that there were other statutes containing similar obligations which might be conferred otherwise. It would be exceedingly inconvenient if the jurisdiction which was placed in a Government department, which is enabled to call upon a district to reform its whole system of sewage and drainage, could be taken out of the hands of that department by a private person. He entirely concurred in the judgment of the Court of Appeal, and thought the case should be decided according to the familiar principle of law to which he had referred. There was another point dealt with by Mr. Danckwerts to which he would briefly advert, though he should be sorry to rest his judgment upon it. The insufficiency of drainage in this case only extended to a particular factory. It was therefore within the exact words of the Rivers Pollution Prevention Act, 1876, section 7 of which provided for the grant of facilities for enabling manufactories to get rid of refuse, and enacted that no sanitary authority should be required to give such facilities where the sewers of such authority are only sufficient for the requirements of the district. The duty lay previously on the manufacturer to get rid of his own refuse, and it would be unreasonable to permit a man to come to a small district, and to require the local authority to reconstruct its system for his purposes. But he preferred to rest his judgment on the other point on which the Court of Appeal had decided the case.

Lord Machnaghten, Lord Morris, and Lord James concurred, and the appeal was dismissed, with costs.

CHANGE OF FIRM.—We learn from Messrs. Richard Baker, Son and Co., 19, St. Dunstan's Hill, London, E.C., that after the 4th inst., the style of the firm will be Baker and Startin. The management of the business, however, will remain precisely the same.

Trade Notes.

LORD REAY ON CHEMICAL TEACHING.—The members of the Institute of Chemistry dined together this week at the Trocadero Restaurant, London, the president (Dr. Stevenson) in the chair. Responding for the Houses of Parliament, Lord Reay said the teaching of chemistry was an Imperial question of the greatest importance. It was said they had in England all the accessories of education but not education itself. However that may be, they wanted it known that the science schools and laboratories were not palaces in which to luxuriate in scientific discoveries, but institutions devoted to practical purposes, and that the prosperity of the nation depended on their teachings being thoroughly assimilated by those connected with their industries.

LIVERPOOL NITRATE COMPANY, LIMITED.—The directors have declared a dividend of 5 per cent., payable May 14th.

NODEL DYNAMITE TRUST COMPANY, LIMITED.—The directors, having received particulars of the earning of the subsidiary companies, recommend a dividend for the year ending April 30 of 12 per cent., carrying forward about £13,000.

NITRATE STATISTICS.—The Permanent Nitrate Committee's Public Statistical Circular for May shows:—Total exports to Europe, April, 910,000 quintals; loading for Europe, 1st May, 800 000 quintals; imports, Europe, April, 146.140 tons; deliveries, Europe, April, 173,620 tons; visible supply. Europe, 1st May, stocks and afloat, 267,110 tons

GEORGE WHITEHEAD.—We are informed by Mr. G. Whitehead, of Clayton, Manchester, that he has purchased the goodwill of the business of Robert Rumney, established 1841, and formerly carried on at the Ardwick Chemical Works, Manchester. The ample and modern equipment at his works, combined with his long and special experience in the same branch of trade, provide him with all necessary facilities for carrying out orders with accuracy and promptitude.

MESSRS. LEVER BROS., LTD.—The preference and ordinary shareholders of Lever Brothers Limited, met on Saturday last, at the Cannon-street Hotel, E.C., Mr. W. H. Lever presiding. A resolution was unanimously carried at each, authorising an increase of capital to £3,000,000, by the creation of 50,000 new preference and 50,000 new ordinary shares of £10 each, to rank *pari passu* with the respective shares existing, and the immediate issue of 25,000 preference shares at a premium of £2 10s. per share—to be offered *pro rata* to the present holders of preference shares.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are, if anything, a shade firmer at 11d. for 90's and 1s. 0½d. for 50/90's. Carbolic acids steady. Crude naphtha lower at 4½d. and solvent 1s. 3d. Anthracene inclined to weakness. Pitch fairly steady at 20s. to 21s. 6d. f.o.b. East Coast.

Sulphate of ammonia is firmer for immediate delivery, and the position of the market is better. In consequence the downward tendency of prices which characterised the opening of the week has been checked. Closing prompt values are:—Beckton, £8. 11s. 3d.; London outside makes, £8. 15s.; Liverpool, £8. 16s. 3d.; Hull, £8. 11s. 3d.; and Leith, £8. 11s. 3d. to £8. 12s. 6d. Nitrate steady.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business is somewhat irregular. For caustic soda prices are unaltered, and spot quotations are as follows—f.o b Liverpool, 77%, £8. 5s.; 74%, £8.; 70%, £7. 2s. 6d.; 60%, £6. 2s 6d. nett, per ton, 10-ton lots and upwards. Ammonia alkali is in good request at £4. 2s. 6d., bags, f.o r. makers' works. Soda crystals and bicarbonate are unchanged. Bleaching powder is quiet, demand being low both for home and export trade, but prices are unaltered. Chlorates are reported stronger, but there is no evidence of this as yet in prices, which are respectively 3¾d. and 3¼d. per lb. for soda and potash. Recovered sulphur £4. 11s. 3d. to £4. 12s 6d, f.o.r. There is an improvement in demand for saltcake, and ruling quotations are from 20s. to 21s., f.o.r. makers' works. In sulphate of copper business is brisk, and prices now quoted are from £16 15s. to £17., f.o.b. Yellow prussiate of potash is rather firmer at 6⅝d. to 6¾d. per lb.; cyanide 1s. 3d. per lb. White powdered arsenic continues exceedingly quiet, and price is nominally £17. 15s. to £18, f o.r. Garston. Brown acetate of lime £5. 17s 6d. to £6, c.i.f.; grey, £7. 15s. per ton. There is a good inquiry for potash, carbonate and caustic, but values are unaltered. Lead salts are firm, and higher prices are now realized all round. Business in acetic acid and acetate of soda is dull. Oxalic acid 3½d. per lb. Nitrate of soda firmer at 7s. 6d. to 7s. 7½d. per cwt.

REPORT ON MANURE MATERIAL.

The activity referred to in last week's report, both in manufactured manures and in material, has been continued throughout the week, and the tendency of prices for material is still upwards. The bulk of the production of mineral phosphates for 1898 has been disposed of, and extreme prices would now have to be paid for anything for shipment within the next six months For 1899 shipment the value of 75/80% Florida phosphate is about 6½d. per unit, and something like this price would have to be paid for Algerian shipment second half of 1899. The quotation for South Carolina rock is in the meantime nominal. There is nothing fresh to report in River Plate bones. East India bone meal is again firmer on spot, and £4. 6s. 3d. per ton would now have to be paid. For shipment the quotation has been advanced to £4. 15s. per ton owing to extreme freights now required, but such a price precludes business in the meantime.

Nitrate of soda is somewhat firmer on spot, but owing to further arrivals 7s. 4½d. per cwt., ex quay, would still be accepted for fine quality.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil keeps firm, and although the demand keeps moderate, full prices continue to be asked. A small parcel of Lagos has been done at £21. 5s. In olive, Seville is moving quietly at £31. per tun with a steady market. Linseed is firm at 18s. to 18s. 6d. cwt. for Liverpool makes in export casks. Cottonseed is quoted 17s. 3d. to 17s. 6d. for Liverpool refined. Castor oil firm, with good seconds Calcutta at 3¼d. to 3 5/16d. lb. First pressure French 3¼d. with a rising market. Tallow keeps steady with a good market. Resin is moving fairly well at full rates. Spirits of turpentine easier, with sellers at 27s. 6d. and only a moderate inquiry thereat. Petroleum unsettled. Prices rising, but so far no business done at the advance.

CAKES.—A very steady feeling has again prevailed in the market for American Western linseed on the spot, and with a fair demand the recent full quotation is well maintained at £7. 2s. 6d. to £7. 10s., with Liverpool makes firmly held for £8. to £8. 15s. per ton, according to brand, and a very fair trade doing at the full prices quoted. For American decorticated, cottonseed holders experienced rather an improved demand, and the previous quotation was well maintained at £6. to £6. 15s. for good to choice brands, and Liverpool makes were also in very fair request at £6. 12s. 6d. to £7. 5s. per ton, being an advance of 5s. on the rates quoted in last report for this quality. Some holders of Liverpool undecorticated makes are asking more money, and the quotation is now given at £4. 7s. 6d. to £5. 5s., according to brand, with a good business doing for consumption thereat, and supplies of Egyptian in first hands on the spot having been exhaustad second hand sellers are exceedingly firm at £4. 10s. per ton and experience a fair demand thereat.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The sudden spurt in values can hardly be described as having been maintained. The prices from day to day are very irregular; the net result of the week has been a reduction upon both linseed and cotton oil of about 2s. 6d. to 5s. each. The stocks of seed in the port at the end of April were:—Wheat, 47,986 qrs. against 222,803 qrs. a year ago; linseed, 1,732 qrs. against March 2,393 qrs.; rape seed, 1,093 qrs. against 2,640 qrs.; cottonseed, 1,613 tons—1951 tons. The imports for the month have been—Linseed, 16,781 qrs. against March 50,748 qrs; rapeseed, 2,301 qrs. against 2,910 qrs.; cottonseed, 17,127 tons against 14,382 tons. Linseed oil on the spot is quoted 15s. 6d. to 15s. 9d., and is quiet 16s. to 16s. 3d. May-December. Boiled £1.; refined £1. 10s. per ton extra. Refined cotton oil, 15s. to 15s. 3d. spot, naked; forward May-August, 15s. 3d.; November-April, 14s. 3d., naked. Filtered Refined about £1. to £1. 5s. per ton extra. Crude is quoted 13s. 10½d. spot; barrels £1. 10s., and ordinary casks, £1. per ton extra. Castor oil extracted here: First pressure, 29s. 6d. per cwt. in barrels; in cases, 3 5/16d. per lb.; second pressure, in barrels, 28s.; in cases, 3⅛d. per lb. French oil is quoted, f.o.r. Marseilles, May-June shipment, £27. 5s.; July-December, £26. 15s. net. Olive oils are quoted £33. 10s. to £36. per ton. Olive oil soaps firm and unchanged. Oleines have advanced £2. 10s. per ton, and brown is quoted 20s. 6d. in barrels; white re-distilled £23. Rosins, from 4s. 9d. per cwt., ex quay, according to grade. Cod oils, £16. 10s. to £19. per ton. Wool grease, £7. 10s. to £9. Provisions still continue at panic prices, which buyers appear to encourage, £4. 2s. 6d.

CAKES.—Linseed cakes, a quiet trade, 95% pure, £8. 5s. to £8. 7s. 6d. per ton. Oilcakes (linseed), £6. 17s. 6d. to £7. Russians,

d. to £7. 12s. 6d. Cotton cakes dull, best makes £4. 12s. 6d.; £4. 10s. Decorticated, £6. 5s. Rape cakes, £4. 2s. 6d. l, bags included, £4 2s 6d.

TS.—Makers continue very actively employed, and have in stances to work overtime to cope with the trade. Prices d. Disinfecting powder: 5% carbolic, £3.; 10%, £3. 10s.; . Sanitary fluid, 1s. per gallon. Black varnish, £5. per rrels.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

als in this quarter continue rather inclined for a move of some the sympton is rather of uncertainty than of healthfulness. held for higher money, and others are offered at a reduction; ilk of actual business done is but moderate. Alum is on offer tion. Sulphate of copper has risen 5s, fully, and most lead er products are excited. Bicarbonate of soda is definitely . One of the descending lines is sulphate of ammonia, which down to £8. 11s. 3d., f.o.b. Leith spot, and has every appearving a further journey to do in the same direction. It is on at forward offers have been made at figures below prompt ich is not a good sign. Mineral oils and solid paraffins are ally untouched in the prices given below, but on the actual ey are decidedly firmer in feeling, due to speculation as to ble effects of the war on American imports.

rices current are:—Soda crystals, £2. 5s. to £2. 15s. od. nett la ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to nett, Glasgow; caustic soda, white, 74° £8., 70/72° d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 19s. 6d.; glish, refined, £14., and boracic acid, £24. nett, Glasgow; te of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7. rpool; bichromate of potash, 3¾d., less 5% for Scotch and eliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate d. less 5% for Scotch and English deliveries (for export, 2¾d. . Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; soda, 7s. 3d. to 7s. 6d.; sulphate of ammonia, £8. 11s. 3d; f.o.b. Leith; salammoniac, first and second white, £35. nett, any port; sulphate of copper, £16. 12s., 6d. less rt; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., vax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit , 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., al, 6d., at Glasgow and other big centres, for Scotch buyers sales a shade lower); ditto (lubricating) 865° £4. 10s. to 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. nports of sugar at Greenock were 6,598 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

rket is practically unchanged as regards prices, though shipimproving somewhat with opening of the Baltic. Soda crystals, 2s. 6d. per ton, gross weight, locally. Caustic, 76/77% per ton: 70%, £7. 5s, to £7. 10s. per ton. Sulphur firmer s. to £5 per ton.

ng powder, softs, £5. 10s. per ton, nett: do. hards, £5. 15s. per caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, er ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white %, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, er ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, , 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, 2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. 6d. per ton, f.o.b. Tees.

COALS.—Market here has quietened down considerably, and with more coals free for sale by colliery owners and second-hand parcels offering, the demand seems to be fairly met, and in consequence prices are rather weaker. Best Northumbrian steam, 14s. to 15s. per ton; second qualities, 13s. to 14s. per ton; small steam, 5s. 6d. to 6s. 6d. per ton; bunker coals firm, 9s. 6d. to 10s. per ton; household coals quiet, 10s. to 11s. per ton; coke, steady, 17s. 6d. to 20s per ton.

New Companies.

G. K. Littlefield Syndicate, Ltd.—CAPITAL £12,000. in £1. shares (2,000 £7. per cent cumulative preference). This company has been formed to adopt an agreement with G. K. Littlefield, and to acquire, own, and work the British patent rights for the manufacture of a material known as "Dermatinos." The subscribers to the memorandum of association are:—L. S. Dixon, the Mount, Blundellsands, paper merchant; A. P. McAllester, Myers-road West, Great Crosby, merchant; L. Franklin, 19, Gower-street, W.C., boot manufacturer; E. P. Fisk, Craigie Lea, Crescent-road, Liscard, salesman; W. Merrick, 120, Bedford-street, Liverpool, plumber; G. M. Brown, 93, Warren-street, Boston, Mass., financial agent; G. K. Littlefield, Newtonville, Mass., U.S.A., inventor. Registered office: 42, Castle-street, Liverpool.

H. E. Wilson, Limited.—CAPITAL £20,000. in £5. shares (20,000 £6. per cent. cumulative preference. This company has been formed to acquire and carry on the business of a paint manufacturer, oil and colour merchant, ship painter, plumber, etc, carried on at Liverpool by H. E. Wilson, and to adopt a certain agreement. The subscribers to the memorandum of association are:—H. Wakeham, 20, King-street, Liverpool, shipowner; J. R. Haws, 16, South Castle-street, Liverpool, shipowner; H. E. Wilson, 25, Dublin-street, Liverpool, manufacturer; J. H. Sherwin, 125, Faulkner-street, Liverpool, manager; C. P. Fisk, Crescent-road, Liscard, Cheshire, manager; Rev. H. L. Wilson, 136, Chatham-street, Liverpool; W. D. Shiremain, 50A, Lord-street, Liverpool, chartered accountant. Registered office: 25, Dublin-street, Liverpool.

Manchester Viscose Company, Limited.—CAPITAL £10,000. in £1. shares. This company has been formed to acquire certain rights and privileges of the Viscose Syndicate, Limited, to adopt an agreement with the Viscose Syndicate, Limited, and the Continental Viscose Compagnie, and to carry on the business of viscose and cellulose manufacturers and manufacturing chemists and druggists. The subscribers to the memorandum of association are: F. H. Smith, The Priory, Swinton Park, nr. Manchester, merchant; G. Comber, Knutsford, Cheshire, merchant; W. J. Crossley, Glenfield, Altrincham, Cheshire, engineer; J. Smith, Arncliffe, Eccles, Lancs., merchant; W. Buckley, Oakdene, Worsley, Lancs., calico printer; J. C. Chorley, Lodge-lane, Bewsey, Warrington, chemist; R. D. Farnworth, Northcote, Langho, nr. Blackburn, merchant. Registered office: 5, Cross-street, Manchester.

Gazette Notices.

PARTNERSHIP DISSOLVED.

S. WRIGHT and J. FOSTER, oil and tallow merchants, Leeds, under the style of Joseph Foster & Co.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

ending April 23rd.

ıld —

19 pks.	Lister & Biggs
£250	A. & M. Zimmermann
10 pks.	Elkan & Co.
12	H. Lorenz
5	T. S. T. & L. Co., Ld.
,,	10	Chilworth Gunpowder Co.
Austria,	20	D. T. Domeier & Co., Ld.
France,	10	,,

Acids—

Holland,	75 pks.	Little & Johnston

Alkali—

France,	50 c.	J. Barber & Co.
Germany,	1,255	R. Waters
,,	100	A. & M. Zimmermann

Alum—

Holland,	495 pks.	Ohlenschlager Brs.

Antimony Ore —

Australia,	7 t.	F. W. Spence & Co.
Spain,	10	J. Bamber

Arsenic —

Melbourne,	60 pks.	G. H. Adams & Co.
Portugal,	59	Coverley & Westray

Asbestos—

Canada,	£700	Deering & Robottom
Germany,	30	Craven & Co.

Barium Chloride —

Holland,	£30	Petri Brs.

Barytes —

Belgium,	40 pks.	H. Johnson & Sons
,,	124	J. L. Lyon & Co.
Holland,	24	O Hara & Hoar
Belgium,	223	W. Harrison & Co.
Germany,	30	J. L. Lyon & Co

Bleaching Powder —

Holland,	£35	J. M. Steel & C

Camphor—
Germany 1 pk. L. & I. D. Jt. Co.

Caoutchouc—
N. Zealand, 13 c. N. Z. L. & M. A. Co.
Zanzibar, 52 L. & I. D. Jt. Co.
Madagascar 34 Kleinwort, Sons & Co.
U. States, 5 Stiebel Brs.
Sydney, 25 McIlwraith, McEacharn & Co.
Rangoon, 100 Prop. Bull Wf.
U. States, 5 Lewis & Peat

Castor Oil—
Belgium, 25 brls. C. & E. Morton
" 20 Phillipps & Graves
E. Indies, 16 cks. Cayzer, Irvine & Co.

Caustic Potash—
France, £100 Petri Brs.
" 30 pks. W. E. Cole

Chemicals *(otherwise undescribed)*
Germany, £5 L. & I. D. Jt. Co.
" 85 Phillipps & Graves
France, 117 Mory & Co.
" 6 Prop. Hay's Wf.
Holland, 248 T. H. Lee
Belgium, 119 T. Palmer
Germany, 7 Butler's Wf., Ld.
Holland, 25 M. Benscher
" 5 J. Owen
France, 120 Typke & King
Germany, 56 Craven & Co
Belgium, 27 John Cockerill Line
Holland, 15 R. W. Greeff & Co.
Germany, 972 A. & M. Zimmermann
U. States, 74 C. F. Gerhardt
Sweden, 10 M. D. Co.
Belgium, 25 Petri Brs.
" 39 T. H. Lee
Holland, 32 Little & Johnston
Norway, 100 W. Caudery & Co.

Citrate of Lime—
Italy 84 pks. B. Jacob & Sons
" 16 Thames S. T. & L. Co.

Citric Acid—
Italy, 40 pks. J. Puddy & Co.

Copperas—
Germany, £24 A. & M. Zimmermann

Cream of Tartar—
Belgium, 3 pks. T. Ronaldson & Co.
Spain, 14 F. C. Devon & Co.
Portugal, 20 W. C. Bacon & Co.
France, 10 C. F. Gerhardt
Spain, 9 W. C. Bacon & Co.
" 22 B. & F. Wf. Co.

Dyestuffs—
Aniline
Germany, 1 pk. Butler's Wf., Ld.
Argols
Italy, 14 pks. Thames S. T. & L. Co.
" 721 B. Jacob & Sons
Cochineal
Canaries, 10 pks. Sperling & Williams
Cutch
Rangoon, 1,400 pks. Arracan Co., Ld.
" 300 H. A. Litchfield & Co.
Ceylon, 539 Phillipps & Graves
Divi Divi
E. Indies, 200 pks. Flack, Chandler & Co.
Extracts
U. States, 100 pks. Skilbeck Brs.
" 22 J. Norrenberg & Co.
France, 5 T. H. Lee
Holland, 5 "
Germany, 20 "
Belgium, 20 Leach & Co.
" 558 Union L. Co., Ld.
" 90 B. & F. Wf. Co.
U. States, 8 J. W. & T. A. Smith
Indigo
E. Indies, 5 chts. H. J. Perlbach & Co.
" 5 Elkan & Co.
Bengal, 89 J. Finlay & Co.
Madras, 54 Croysdale & Co.
" 17 H. Johnson & Sons
" 58 P. Macfadyen & Co.
" 44 R. Von Glehn & Sons
" 76 A. Young & Co.
" 85 L. & I. D. Jt. Co.
Bengal, 3 "
" 4 Montgomerie & Workman
Madras, 23 J. Owen
" 9 Walker, Munsie & Co.
" 3 Parry & Co.
U. States, 3 cs. L. & I. D. Jt. Co.
Madras, 2 Parsons & Keith
" 30 J. W. Cook & Co., Ld.
" 16 Arbuthnot, Latham & Co.
Italy, 10 cs. Union L. Co., Ld.
Myrabolams
E. Indies, 2,721 pks. J. R. Francis & Co.
" 1,775 Hoare, Wilson & Co.
" 1,213 Lucas & Spencer's Wf.
" 2,047 W. Shelcott
" 1,183 F. Claydon & Co.
" 1,400 P. & O. Co.
" 2,733 H. J. Perlbach & Co.
Saffron
Spain, 1 pk. Prop. Midd. Wf.
Shumac
Italy, 1,013 pks. J. Kitchin, Ld.
" 170 A. Laming & Co.
Tanners' Bark
Belgium, 39 t. Leach & Co.
Cape, 8 Brown & Elmslie
Turmeric
E. Indies, 94 pks. L. & I. D. Jt Co.
" 300 J. W. Cook & Co., Ld.
Valonia
A. Turkey, 206 t. Anning & Cobb
" 85 Boutcher, Mortimore
" 41 J. Graves
" 184 A. & W. Nesbitt
" 10 F. Claydon & Co.

Farina—
Belgium, 50 pks. J. Barber & Co.
U. States, 347 R. Bennett & Co.
Holland, 100 T. H. Lee
" 125 Orient Co., Ld.
" 150 J. Barber & Co.

Glucose—
U. States, 125 pks. 764 c. Fellows, Morton, & Co.
" 50 300 Page, Son & East
" 100 600 Lipton Ld.
" 100 577 Deering & Robottom
" 50 290 A. E. Piggott
" 575 3,200 Hall & Co.
" 50 300 R. Johnson & Co.
Canada, 500 500 Ohlenschlager Brs.
" 500 500 R. G. Hall & Co.
Germany, 75 700 Bennett S. S. Co., Ld.
" 20 22 Colthurst & Harding
U. States, 50 300 A. B. Curtis & Co.
" 250 250 Barrett Tagant & Co.
" 200 1,119 Ohlenschlager Brs.
Germany, 20 163 M. D. Co.
Canada, 750 750 G. Clark & Son
U. States, 2,000 2,000 Pearce, Pelly & Co.
" 2,649 11,725 R. G. Hall & Co.

Glue—
France, £150 Davies & Sons
U. States, 30 Armour & Co.
Austria, 260 M. D. Co.
Germany, 228 Phillipps & Graves
Belgium, 695 J. Barber & Co.
France, 120 B. & F. Wf. Co.
Holland, 74 T. H. Lee
Austria, 150 C. A. & H. Nichols
Germany, 80 L. & I. D. Jt. Co.
France, 58 Burnett, Brs. & Sons
" 112 Duche & Sons
Holland, 76 Hermann Keller & Co.

Infusorial Earth—
Germany, £250 A. Haacke & Co.

Kainit—
Germany, 199 t. F. W. Berk & Co., Ld.

Lamp Black—
U. States, 102 pks. Wilsons & Furness Co.

Magnesia—
Holland, £50 A. & M. Zimmermann

Manganese—
Germany, 10 t. C. Hoff & Co.

Manganese Borate—
Germany, £40 Petri Brs.

Manure—
Sydney, 15 t. Australian Meat Co.
Holland, 70 Hollinghurst & Co.
Belgium, 2 T. Ronaldson & Co.

Mica—
E. Indies, £250 W. Cameron
" 990 W. M. Smith & Sons
" 140 W. Brandt, Sons, & Co.
" 688 Dundee, Perth, & London S. Co.

Molasses—
U. States, 25 brls. 7,254 c. Wilson & 1,177 cks. Furness Leyland Line
" 50 297 c. Barratt, Tagant, & Co.

Ochre—
Holland, 8 pks. Phillipps & Graves
France, 42 W. Slimmon
" 46 W. Harrison & Co.
Belgium, 11 T. Ronaldson & Co.

Phosphate of Lime—
France, 375 t. A. Hunter & Co.

Phosphate of Potash—
Germany, £30 Butler's Wf., Ld.

Phosphate Rock—
France, 205 t. D. de Pass & Co.
U. States, 1,125 Wyllie, Ward, & Co.

Pitch—
U. States, 34 cks. F. Gardner
W. Indies, 12 brls. L. & I. D. Jt. Co.
Germany, 27 cks. Poth, Hille, & Co.
" 10 cs. H. Lambert
Holland, 6 cks. Poth, Hille, & Co.

Plumbago—
U. States, 2 brls. S. Guiterman & Co.
Ceylon, 675 Morgan Crucible Co.
" 52 R. G. Hall & Co.
" 41 A. B. Curtis & Co.

Potassium Bicarbonate—
Germany, £50 H. Lambert

Potassium Carbonate—
Germany, 100 c. Petri Brs.
France, 30 J. A. Reid

Potassium Chloride—
Germany, 300 pks. F. W. Berk & Co., Ld.

Potassium Oxymuriate—
Sweden, 100 pks. G. Boor & Co.

Pumice Stone—
Italy, 10 t. F. Claydon & Co.
" 3 C. S. Lovell
" 12 T. H. Lee
" 6 Acton & Barman
" 2 G. S. N. Co.

Pyrites—
Pomaron, 872 t. Mason & Barry, Ld.

Rosin—
Calombia, 3,140 brls. F. & S. Chiesman & Co.

Salicylic Acid—
Holland, 4 pks. Little & Johnston
Germany, 7 Butler's Wf., Ld.

Salt—
Portugal, 150 t. Weston & Westall

Saltpetre—
E. Indies, 1,045 bgs. Lucas & Spencer's W.
Germany, 50 J. Hall & Son
E. Indies, 685 Perkins & Homer
" 48 L. & I. D. Jt. Co.
" 485 J. W. Cook & Co.
Germany, 12 brls. L. & I. D. Jt. Co.

Sodium Phosphate—
Belgium, £41 Sawer, Sons, & Co.
" 40 H. Wallace & Co.
" 72 A. Boake, Roberts, & Co.

Starch—
Austria, 5 pks. M. D. Co.
Germany, 190 Phillipps & Graves
France, 725 E. & T. Pink
Germany, 2,550 Horne & Co.
France, 20 J. Barber & Co
" 220 Prprs. Dowgate Dk.
Holland, 141 Phillipps & Graves
Belgium, 50 Leach & Co.
U. States, 800 Bertel Food Co.
Holland, 1,772 Little & Johnston
U. States, 100 Soundy & Sons
Belgium, 320 J. Harrison
U. States, 100 R. Warner & Co.

Stearine—
U. States, 10 cks. Finsler & Wheeler
Australia, 119 Phillipps & Graves
Belgium, 317 bgs. H. Hill & Sons

Tartaric Acid—
Holland, 20 pks. Kirkpatrick, Barr, Sons, & Co., Ld.
" 3 F. C. Devon & Co.

Tartars—
Italy, 30 pks. Howard & Son

Ultramarine—
Belgium, 20 pks. J. Harrison

Varnish—
Germany, 12 pks. Phillipps & Graves
U. States, 18 Dawson Brs.
" 16 Williams, Torrey, & Co.
" 12 Lunham & Moore
Belgium, 1 Leach & Co.
Germany, 8 Butler's Wf., Ld.
U. States, 12 Anglo-American Oil Co

Waste Salt—
Germany, 25 t. F. W. Berk & Co., Ld.

White Lead—
Belgium, 35 pks. J. L. Lyon & Co.
" 6 D. C. Thomas & Sons
" 46 T. & W. Farmiloe, Ld.
Germany, 50 H. B. Alder & Co.
" 57 D. Storer & Sons
Norway, 4 W. E. Bott & Co.

Wood Pulp—
U. States, 3,815 pks. Henderson, Craig, & Co.
Norway, 300 W. E. Bott & Co.
" 400 Ekman Pulp & Paper Co
Sweden, 648 Alsing & Co., Ld.
" 250 H. Raby & Mathe
Norway, 3,848 London Paper Mills Co
Sweden, 23 820 t. Henderson, Craig, & Co.
Belgium, 2,152 W. G. Taylor & Co.,
" 3,090 P. Heydemann
Canada, 1,865 Furness, Withy & Co.

Zinc Oxide—
Holland, 40 pks. M. Ashby, Ld.
Germany, 100 "
U. States, 130 "
Holland, 15 H. Johnson & Sons
" 500 Soundy & Sons
" 50 Prprs. Dowgate Dk.

LIVERPOOL.

Week ending April 21st.

Acetate of Lime—
New York, 1,572 brls. Read, Holliday & Sons
" 1,792 bgs.

Alumina Hydrate—
Antwerp, 20 cks.

Aluminium—
New York, 22 bxs. T. Ashbury

Ammonia—
Malta, 4 dms. L. Stern & Co.

Ammonium Nitrate—
Antwerp, 80 brls.

Barytes—
Rotterdam, 22 cks.

Bone Ash—
Campana, 299 bgs.

Bone Meal—
Karachi, 3,000 bgs. W. & R. Graham & Co.
Bombay, 3,067

Boracic Acid—
Leghorn, 10 cks.

Borates—
Galveston, 9,755 sks. Pac. Borates Co.

Castor Oil—
Calcutta, 316 cs. Ralli Brs.
Leghorn, 5
Marseilles, 6 brls. J. J. Mack & Sons
" 900 28 cs.

Chemicals *(otherwise unds.)—*
Marseilles, 100 brls.

Cottonseed Oil—
N. Orleans, 1,200 brls.
New York, 6

Cream of Tartar—
Barcelona, 5 cks. 10 pps.
Bordeaux, 16

Dyestuffs—
Algarrobilla
Valparaiso, 304 bgs. Palassie & Leste
" 1,429 Schintz & Co.
" 93
Cutch
Singapore, 800 bxs.
Rangoon, 1,200
Fustic
Cartagena, 860 pcs.
Trieste, 10 t.
Gambier
Singapore, 3,632 bls. 1,504 bgs.
Indigo
Calcutta, 7 chts.
Logwood
Fort Liberte, 483 t.
Hayti, 650
Myrabolams
Bombay, 2,010 bgs. D. Sassoon & Co.
" 250 2,334 pks.
" 666 Ralli Brs.
" 615 E. A. Sassoon
" 2,793 W. & R. Graham & Co.

Saffron
Alicante, 2 cs. Weaver & Sterry
Valencia, 1
Valonia
Syra, 110 bgs.
Smyrna, { 432 / 399 t. } 10 c. Barry Brs.
" 28
Glucose—
New York, 50 brls. Rogers, Holloway
" 100 W. Simonds & Son
" 50 Richards & Gunn
" 50
Baltimore, 150 pks.
New York, 349 T. M. Duche & Sons
" 250 F. W. Simonds & Co.
" 100 J. Glen
Glue—
Hamburg, 40 bgs.
Rotterdam, 5 cs.
Iodine—
Valparaiso, 18 brls. A. Gibbs & Co.
Lactic Acid—
Boston 10 brls. J. Taylor & Co.
Limestone—
Antwerp, 2 crts.
Manure—
Rotterdam, 250 bgs.
Ochre—
Marseilles, 40 brls.
Paint—
Hamburg, 6 cks.
Boston, 13 cs.
Paraffin Scale—
New York, 515 brls. Thompson & Bedford
" 315 Anglo-Am. Oil Co.
Potash—
Portland, 3 brls. Melcoland & Co.
Rotterdam 5 cks.
Potassium Chloride—
Marseilles, 500 bgs.
Pyrites—
Huelva, 1,360 t. Matheson & Co.
Saltpetre—
Calcutta, 1,276 bgs. Ralli Brs.
Soap—
New York, 470 brls.
Bordeaux, 1 cs.
Marseilles, 5 G. G. Mackey
" 1,111 bxs.
Smyrna, 39 cs. H. Varbetian
N. Orleans, 2,132 bxs.
Bari, 93 cs.
Boston, 1 brl. J. Braithwaite & Son
Soapstone—
Genoa, 200 bgs.
Sodium—
Alexandria, 14 bgs. P. H. Schroeder
Sodium Bicarbonate—
Stettin, 22 cks.
Starch—
Baltimore, 200 bgs.
Antwerp, 158 cs.
Rotterdam, 60
Boston, 15 brls. J. Braithwaite & Son
Stearine—
Antwerp, 10 bgs.
Sulphur—
Catania, { 107 brls. / 80 bgs. }
Messina, 200 t.
Tallow—
Boston, 1,625 tcs.
" 1,499 Fowler Brs., Ld.
Philadelphia, 500
Campana, 192 cks.
Tartar—
Naples, 3 cks.
Tartaric Acid—
Messina, 8 cks.
Rotterdam, 12
Treacle—
Philadelphia, 50 brls.
Tripolite—
St. John's, 243 bgs.
Turpentine—
Hamburg, 1 cs.
Ultramarine—
Rotterdam, 20 cks.
Varnish—
New York, 7 brls. W. A. Warren
Verdigris—
Marseilles, 3 brls. Schrempt & Co.

White Lead—
Rotterdam, 102 cks.
Wood Pulp—
Rotterdam, 149 bls.
Skien, 620 H. Tyrer & Co.
Arendal, 3,321 "
Zinc Oxide—
New York, 100 brls.
Antwerp, 20 J. Mathews & Co.
Marseilles, 32
Zinc White—
Rotterdam, 42 cks.

MANCHESTER.

Week ending April 23rd.

Acetate of Lime—
New York, 1,834 bgs.
Albumen—
Hamburg, 1 ck.
Ammonia—
Rotterdam, 4 cyldrs.
Ammonium Sulphate—
Rotterdam, 1 ck.
Aniline Salts—
Rotterdam, 35 cks.
Antimony—
Treport, 10 cks.
Arachide Oil—
Rotterdam, 1 ck.
Barytes—
Antwerp, 260 bgs. J. T. Fletcher & Co.
Rotterdam, { 100 / 41 cks. }
Caoutchouc—
Treport, 13 cks.
Caustic Potash—
Hamburg, 40 cks.
Colours—
Antwerp, 16 pks.
Hamburg, 21 cks.
Rotterdam, { 3 / 95 brls. } 9 cs. 10 bxs.
Cutch—
Rotterdam, 15 cs.
Glucose—
New York, 50 brls.
Newport News, 450
Glue—
Antwerp, 3 brls. 10 bls.
Hamburg, 15 bskts.
Rotterdam, 20 bgs.
Treport, 26 cks. 1 cs. 20
Limestone—
Antwerp, 8 cs.
Ghent, 3
Lithopone—
Rotterdam, 12 cks.
Paraffin Scale—
New York, 270 brls.
Potash—
Treport, 17 cks. 20 dms.
Rosin—
Rotterdam, 4 cks.
Saltpetre—
Hamburg, { 16 cks. / 5 bgs. }
Shumac—
Palermo, 400 bls.
Soap—
Rotterdam, 3 cs.
Sodium Sulphide—
Rotterdam, 18 cks.
Starch—
Antwerp, 145 cs.
Hamburg, 160
Newport News, 1,600 sks.
Rotterdam, 201
Tartaric Acid—
Rotterdam, 9 cks.
Tin Perchloride—
Antwerp, 2 cks.
Ultramarine—
Hamburg, 4 cks. 1 cs.
Waste Salt—
Hamburg, 100 bgs. and qty.
Wood Pulp—
New York, 423 rolls
Hamburg, 199 bls.
Halifax, N.S., 11,596 Chadwick & Taylor
" 2,576
Zinc Oxide—
Antwerp, 25 brls.
New York, 100

HULL.

Week ending April 23rd.

Antimony—
Dunkirk, 3 cks. Wilson, Sons, & Co., Ld.
Arsenic—
Antwerp, 13 cks. Wilson, Sons, & Co., Ld.
Barytes—
Hamburg, 20 cks. Wilson, Sons, & Co., Ld.
Antwerp, 67 bgs. Bailey & Leetham, Ld.
Bremen, 23 cks. Veltmann & Co.
" 49
Rotterdam, 42 W. & C. L. Ringrose
Bone Meal—
Bombay, 2,134 bgs.
Chemicals (*otherwise undescribed*)
Rotterdam, 13 cks. Hutchinson & Son
Danzig, 14 Wilson, Sons, & Co., Ld.
Dunkirk, 10 pks. "
Hamburg, 9 cks. "
Antwerp, 110 dms. "
Marseilles, 1 brl. "
Colours—
Rotterdam, 3 cks. 2 bxs. 5 cs. Hutchinson & Son
" 10 cks. 4 pks. Wilson, Sons, & Co., Ld.
Antwerp, 5 Bailey & Leetham, Ld.
Bremen, 10 cs. Veltmann & Co.
" 1 ck. 1 J. Pyefinch & Co.
Rotterdam, 60 44 W. & C. L. 4 bxs. Ringrose
Antwerp, 16 pks. Wilson, Sons, & Co., Ld.
Cryolite—
Copenhagen, 7 cks. Wilson, Sons, & Co., Ld.
Dyestuffs—
Alizarine
Rotterdam, 2 cks. W. & C. L. Ringrose
Logwood
Hamburg, 35 bgs. 4,746 pcs. Wilson, Sons, & Co., Ld.
Myrabolams
Bombay, 2,127 bgs.
Farina—
Hamburg, 1,125 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 100 bls. Hutchinson & Son
Glucose—
New York, 250 brls.
Glue—
Rouen, 41 cks. 10 bls. Rawson & Robinson
Christiansund, 4 brls. Wilson, Sons, & Co., Ld.
Dunkirk, 44 cks. "
Rotterdam, 1 W. & C. L. Ringrose
Guano—
Ghent, 1,552 bgs.
Lamp Black—
Antwerp, 50 cks. Wilson, Sons, & Co., Ld.
Limestone—
Antwerp, 1 crte. Wilson, Sons, & Co., Ld.
Nickel Salt—
Rotterdam, 2 cks. Hutchinson & Son
Ochre—
Marseilles, 80 cks.
Rouen, 54 Rawson & Robinson
Paint—
New York, 82 pks. Wilson, Sons, & Co., Ld.
Phosphate—
Ghent, 150 t.
Pitch—
Amsterdam, 12 cks. Hutchinson & Son
Plumbago—
Hamburg, 31 cks. Wilson, Sons, & Co., Ld.
Potash—
Antwerp, 1 ck. Bailey & Leetham, Ld.
Pumice Stone—
Marseilles, 5 bgs.
Leghorn, 31 pks. Wilson, Sons, & Co., Ld.
" 6

Pyrites—
Huelva, 1,435 t.
Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.
Soap—
Marseilles, 5 cs.
Rotterdam, 3 W. & C. L. Ringrose
Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Ghent, 100 Wilson, Sons, & Co., Ld.
Antwerp, 115 "
Sodium Nitrate—
Hamburg, 153 bgs. Wilson, Sons, & Co., Ld.
Starch—
Antwerp, 40 cs. Bailey & Leetham, Ld.
New York, 250 bgs.
Ghent, 315 cs. Wilson, Sons, & Co., Ld.
Rotterdam, 160 W. & C. L. Ringrose
Antwerp, 40 Wilson, Sons, & Co., Ld.
Odessa, 98 bgs. "
Tallow—
New York, 100 tcs. Wilson, Sons, & Co., Ld.
Dunkirk, 285 cks. "
Hamburg, 1 brl. "
Tar—
Amsterdam, 4 cks. Hutchinson & Son
Dunkirk, 26 Wilson, Sons, & Co., Ld.
Tartar—
Bordeaux, 9 cks. Rawson & Robinson
Naples, 22 Wilson, Sons, & Co., Ld.
Tartaric Acid—
Rotterdam, 6 cks. W. & C. L. Ringrose
Treacle—
New York, 1,044 brls. Wilson, Sons, & Co., Ld.
Turpentine—
Bordeaux, 10 cks. Rawson & Robinson
Ultramarine—
Rotterdam, 5 cks. Hutchinson & Son
Varnish—
Hamburg, 1 ck. Bailey & Leetham, Ld.
White Lead—
Amsterdam, 33 cks. W. & C. L. Ringrose
Antwerp, 51 Bailey & Leetham, Ld.
Rotterdam, 103 Hutchinson & Son
Wood Pulp—
Drontheim, 360 bls. Wilson, Sons, & Co., Ld.
Zinc Ashes—
Gothenburg, 18 brls. Wilson, Sons, & Co., Ld.
Zinc White—
Rotterdam, 10 cks. Hutchinson & Son

GLASGOW.

Week ending April 28th.

Acids—
Hamburg, 1 cs.
Alumina Sulphate—
Rotterdam, 31 cks. 100 bgs. J. Rankine & Son
Antimony—
Hamburg, 1 ck.
Asbestos—
Genoa, 3 pks.
Barytes—
Rotterdam, 105 bgs. J. Rankine & Son
Bone Meal—
Bombay, 2,976 bgs.
Boracic Acid—
Leghorn, 10 cks.
Castor Oil—
Marseilles, 20 pks. 134 brls.
Chemicals (*otherwise undescribed*)
Rotterdam, 7 cks. J. Rankine & Son

Chromium Chloride—
Rotterdam, 2 cks. J. Rankine & Son

Chromium Sulphate—
Rotterdam, 3 cks. J. Rankine & Son

Citric Acid—
Messina, 4 cks.

Colours—
Antwerp, 4 cks.
Rotterdam, 39 pks. J. Rankine & Son

Dyestuffs—
Alizarine
Rotterdam, 46 cks. 3 cs. J. Rankine & Son
Aniline
Amsterdam, 1 ck. 6 cs. J. Rankine & Son
Rotterdam, { 13 69 brls. 6 cks. 7 bxs. "
Hamburg, 4 1 cs.
Cutch
Rangoon, 2,350 bxs. P. Henderson & Co.
Logwood
Belize, 490 t W. R. Scott & Co.
Myrabolams
Bombay, 1,270 bgs.
Shumac
Marseilles, 50 bgs.
Palermo, 350 400 bls.

Farina—
Rotterdam, 100 bgs. J. Rankine & Son

Glucose—
Baltimore, 100 brls.

Glue—
Rotterdam, 60 bgs. J. Rankine & Son
Hamburg, 130
Rouen, 30 cks.

Lead Acetate—
Hamburg, 2 cks.

Mineral White—
Leghorn, 25 cs.

Minium—
Rotterdam, 16 cks. J. Rankine & Son

Molasses—
St. John, N.B., 1 pun.

Ochre—
Marseilles, 120 brls.

Oxalic Acid—
Rotterdam 9 cks. J. Rankine & Son
Hamburg, 15

Paint—
Marseilles, 20 cs.

Paraffin Scale—
Rangoon, 80 bxs. P. Henderson & Co.

Phosphate—
Antwerp, 100 t.

Phosphate of Lime and Rock—
Antwerp, 2,150 bgs.

Phosphate Rock—
Fernandina, 1,360 t.

Pitch—
Rotterdam, 50 cks. J. Rankine & Son

Plumbago—
Genoa, 80 bgs.

Potash—
Rotterdam, 80 cks. J. Rankine & Son

Potassium Bromide—
Hamburg, 5 cs.

Potassium Oxalate—
Rotterdam, 10 cks. J. Rankine & Son

Pumice Stone—
Messina, 15 cs. 18 bgs. 40 brls.

Salt—
Hamburg, 8 cs. 2 cks.

Saltpetre—
Hamburg, 40 bgs.

Soap—
Marseilles, 10 cs.

Soda—
Genoa, 25 brls.

Sodium Acetate—
Rouen, 19 cks.

Starch—
Antwerp, 496 cs.

Stearine—
Amsterdam, 61 bxs.

Sulphur—
Girgenti, 500 t. Thomas Lawrie

Treacle—
St. John's, N.B., 2 cs.

Ultramarine—
Rotterdam, 1 ck. 8 cs. J. Rankine & Son

Waste Salt—
Hamburg, 50 bgs.

Wood Pulp—
Rotterdam, 21 pks. J. Rankine & Son

Zinc Oxide—
Antwerp, 60 brls. 30 cks.

TYNE.

Week ending April 23rd.

Barytes—
Antwerp, 150 bgs. Tyne S. S. Co.

Colours—
Antwerp, 3 cks. Tyne S. S. Co.

Farina—
Hamburg, 40 bgs. Tyne S. S. Co.

Limestone—
Antwerp, 11 cs. Tyne S. S. Co.

Phosphate—
Antwerp, 765 bgs Tyne S. S. Co.

Soap—
Portland, 100 cs.

Starch—
Antwerp, 180 cs. Tyne S. S. Co.
Rotterdam, 109 "

White Lead—
Antwerp, 13 cks. Tyne S. S. Co.

Wood Pulp—
Christiania, 2,480 bls.

Zinc Oxide—
Antwerp, 10 brls. Tyne S. S. Co.
Rotterdam, 20 cks. "

GOOLE.

Week ending April 20th.

Alizarine—
Rotterdam, 90 cks

Alkali—
Hamburg, 10 cks.
Calais, 7

Aniline—
Rotterdam, 354 cks. 65 cs.

Barytes—
Antwerp, { 7 cks. 20 bgs.

Colours—
Hamburg, 21 cs.

Dyestuffs *(otherwise undescribed)*
Boulogne, 97 cks. 3 cs. 36 pks.

Farina—
Hamburg, 100 bgs.

Indigo—
Rotterdam, 3 brls.

Lead Acetate—
Hamburg, 15 cks.

Ochre—
Dunkirk, 96 cks.

Phosphate—
Dunkirk, 800 bgs.

Potash—
Hamburg, 20 cks.

Saltpetre—
Rotterdam, 70 bgs.

Starch—
Ghent, 57 cs.

Waste Salt—
Hamburg, 500 bgs.

Wood Pulp—
Rotterdam, 56 bls.

GRIMSBY.

Week ending April 23rd.

Albumen—
Hamburg, 11 cks.

Caoutchouc—
Antwerp, 5 cs.
Hamburg, 1

Chemicals *(otherwise undescribed)*
Hamburg, 2 pks.

Coal Tar Dyes—
Hamburg, 54 cks.
Antwerp, 26 pks.

Colours—
Antwerp, 14 cks. 15 pks.
Hamburg, 45 22 cs. 24

Glue—
Antwerp, 10 brls.

Salt—
Rotterdam, 100 bgs.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 27th.

Acids—
Rockhampton, 11 c. £16
Adelaide, 17 24

Alkali—
Hamburg, 4 t. 1 c. £78
New York, 9 6 125
Lyttelton, 3 17 28

Ammonium Carbonate—
Stettin, 4 t. 9 c. £157

Ammonium Chloride—
Melbourne, 6 c. £11

Ammonium Sulphate—
Madeira, 61 t. 6 c. £630
Cullera, 900 1,900
Ghent, 30 270
Hamburg, 40 357
Havre, 50 450
Malaga, 100 1,000
Dunkirk, 50 450
Demerara, 190 17 1,727
Colombo, 5 8 56

Anhydrous Ammonia—
Cologne, 44 cylndrs. £112

Arsenic—
Wanganui, 5 t. £130

Bleaching Powder—
Shanghai, 7 c. £8
Cape Town, 1 t. 10

Borax—
Dusseldorf, 4 t. 8 c. £72
Stockholm, 1 16

Carbolic Acid—
Durban, 200 dms. £31
Cape Town, 2 cs. 8
Otago, 2 20
Cologne, 28 cks. 200
Rouen, 30 50
Philadelphia 5 5 59
Sydney, 10 5 49
Ludwigshafen, 25 105

Carbon Bisulphide—
Sydney, 1 t. 13 c. £26

Carbonic Acid Gas—
Santos, 5 bxs. £50
Channel Is., 70 tubes 29

Caustic Potash—
Melbourne, 5 c. £22

Caustic Soda—
Cape Town, 9 c. £9
Otago, 10 10
E. London, 3 t. 7 63
Brisbane, 239 5 123
Wellington, 3 3 44
Fremantle, 8 26
Napier, 5 1 37
Pt. Elizabeth, 1 9 31

Chemicals *(otherwise undescribed)*
E. London, 3 cks. 2 cs. £20
Cape Town, 1 11
Amsterdam, 1 t. 1 c. 8 kgs. 85
Valparaiso, 14 80
Brussels, 6 cks. 2 cs. 122
Rosario, 3 14
B. Ayres, 20 28
Philadelphia, 16 142
Wellington, 62 pks. 17
Adelaide, 21 35
Melbourne, 8 17
Madras, 10 57
Cologne, 3 19 kgs. 187
Marseilles, 32 81
Hamburg, 1 84 488
Sydney, 1 7
Bombay 10 6 47
Quebec, 16 dms. 26
Rotterdam, 20 114
Durban, 10 12 cs. 96
New York, 22 8 pks. 68

Citric Acid—
Cape Town, 6 c. £34
Rio de Janeiro, 1 6
Canterbury, 2 12
Kurrachee, 10 65
Montreal, 11 56
E. London, 2 cks. 1 cs. 19
Brussels, 10 58
Genoa, 5 29
Christiania, 4 24
Corunna, 6 34
Reval, 15 82
Riga, 5 33
St. Petersburg, 1 t. 112

Coal Products—
Alizarine
Boston, 55 cks. £644
Lisbon, 1 22
Aniline Dyes
Otago, 1 cs. £6
Calcutta, 1 38
Melbourne, 1 16
Aniline Oil
Genoa, 10 dms. £3.0
Rotterdam, 8 220
Barcelona, 2 11
Aniline Salts
Rotterdam, 5 cks. £30
Anthracene
Cologne, 206 cks. £1,150
Rotterdam, 310 890
Benzol
Rotterdam, 24 cks. 60 puns. £577
Mayence, 20 dms. 215
Le Treport, 36 108
Creosote
New York, 500 cks. £353
Creosote Salts
Philadelphia, 313 kgs. £72
Naphtha
Melbourne, 20 dms. £25
Treport, 28 brls. 90
Naphthaline
Hamburg, 6 cks. £54
Philadelphia, 323 bgs. 70
Stettin, 14 46
Dusseldorf, 500 244
Paris, 125 pks. 76
Pitch
Hong Kong, 731 cks. £180
Alexandria, 200 brls. 73
Calcutta, 100 43
Montreal, 260 49
Stettin, 105 t. 103
Hochfeld, 185 254
Baltimore, 413 cks. 145
Dunkirk, 210 t. 250
Antwerp, { 915 33 cks. 1,263
Boston, 510 257
New York, 207 530 bgs. 189
Philadelphia, 500 254
Pyridine
Hamburg, 6 cks. £65
Antwerp, 21 48
Pyridine Bases
Hamburg, 3 dms. £150
Tar
Delagoa Bay, 200 dms. £23
Durban, 750 20 runlets 78
Tar Oil
Marseilles, 20 cks. £20
Boston, 250 150
Messina, 8 27

Coal Products *(otherwise under.)*—
Calcutta, 1 cs. £7

Copper Sulphate—
Marseilles, 15 t. £249
Paris, 45 751
Cologne, 10 118
Naples, 2 34
Bordeaux, 31 511
Rio de Janeiro, 6 c. 8
Smyrna, 1 1 17

Copperas—
Gibraltar, 51 t. 7 c. £16

Corrosive Sublimate—
Bombay, 10 cs. £212

Cream of Tartar—

Wellington,	1 t.	9 c.		£112
Pt. Elizabeth,		4		19

Disinfectants—

Otago,		16 cs.		£48
Barbadoes,	4 cks.			28
Melbourne,		14 c.		78
Bombay,	1 t.		40 dms.	21
Sydney,		2 cs.		24
E. London,		38		50
Calcutta,			20	38
Jamaica,		2 c.		17

Dried Blood—

New York,	4 t.	19 c.		£219

Guano—

Demerara,	64 t.	13 c.		£513

Manure—

Barbadoes,	152 t.	5 c.		£1,175
Madeira,	51	1		165
Jersey	56	10		149
Sables d'Olonne,	110	5		560
Martinique,	89	2		475
New York,	2			29
Rouen,	10			60
Trinidad,	2			57
Demerara,	100			200
Durban,	8	15		260
Landerneau,	212			1,781

Nitric Acid—

Channel Is.,	28 carboys			£44
Durban,		11 c.		18
Townsville,	30 cs.			24
E. London,	20			24

Phosphorus—

Wellington,		4 c.		£41
Lisbon,	5 cs.			58

Potash—

Wellington,	1 t.	8 c.		£46
Melbourne,	1	6		21
Pt. Elizabeth,	1			18
Lyttelton,		17		28

Potassium Bichromate—

Madras,	3 cks.			£41
Rio de Janeiro,		10 c.		24
Bombay,		7		13

Potassium Cyanide—

Penang,	1 t.	10 c.		£182
Melbourne,	4	16		330
Brisbane,	2			233
Madras,		5		26
Rockhampton,	1			120

Salicylic Acid—

Dunedin,		2 c.		£12

Salt Cake—

Ghent,	130 t.			£215

Saltpetre—

Venice,	1 t.	7 c.		£25
E. London,			25 cs.	10
Dunedin,		10		10
Oporto,	2	18		54
Corunna,	2			39
Santander,	1	5		24

Salts of Potash—

Auckland,	7 t.	6 c.		£520

Sheep Dip—

E. London,	100 dms.			£20
Odessa,		200 cs.		375
Punta Arenas,	10 t.	12 c.		250
San Francisco,	5	7		75
B. Ayres,	4	9		100
Adelaide,	7	8		247

Soda—

Rotterdam,	5 t.	9 c.		£30
Rosario,		5		18

Soda Salts—

Toronto,		18 c.		£135

Sodium Bicarbonate—

E. London,		14 c.		£9
Townsville,	1 t.			7

Sodium Prussiate—

Philadelphia	5 t.			£180

Sodium Tartrate—

Montreal,		11 c.		£33
Toronto,		12		30

Sulphur—

Antwerp,	2 t.	14 c.		£19
Lisbon,			250 brls.	17
Philadelphia,	2	1		6
				4

Sulphuric Acid—

E. London,		26 cs.		£19
Demerara,	7 t.	14 c.		49
Durban,	10			36

Superphosphates—

Dunedin,	100 t.			£275
Rotterdam,		18 c.		205

Tartaric Acid—

Pt. Elizabeth,		3 c.		£15
Sydney,	3 kgs.			17
E. London,		2		13
Wellington,		5		29
Canterbury,		7		44
Corunna,		6		34
Kurrachee,	1 t.			125
Boulogne,		5		29
Toronto,		11		59
Townsville,		2		12
Riga,		4		27

LIVERPOOL.

Week ending April 27th.

Acetic Acid—

Copenhagen,		15 c.		£15

Alkali—

Genoa,	75 t.			£300
Montreal,	25	7 c.	3 q.	101
Seville,	15	9	2	62
Odessa,	65			260
Lisbon,	32	17		130
Santander,	11	14		48

Alum—

Calcutta,	29 t.			£119
Samsoun,	6	14 c.		30
Bahia,	1	10		8
Melbourne,		19		5
Adelaide,	3	3	1 q.	16
Braila,	5	1	2	23
Galatz,	1	3	2	6
Quebec,		6		2
Vigo,	1	2		6

Aluminoferric—

M. Video	21 t.	4 c.		£53

Aluminous Cake—

Calcutta,	24 t.	18 c.	2 q.	£80
Melbourne,	6	16		19

Ammonium Carbonate—

Melbourne,		5 c.		£7
Bremen,		4		6
Odessa,	3 t.			84
New York,	4	10		128
Toronto,	1	1		29
Copenhagen,	2	14		40
Bombay,	1		3 q.	36

Ammonium Chloride—

Philadelphia,	5 t.	12 c.	2 q.	£186
Alexandretta,	1			33
Odessa,	3			99

Ammonium Sulphate—

Teneriffe,	21 t.	10 c.		£185
Philadelphia,	12	5		105
Baltimore	50			450
Valencia,	170			1,350
Palermo,	16	19		150
New York,	26			230

Anhydrous Ammonia—

Lisbon,		2 c.		£5

Bleaching Powder—

Baltimore,	112 cks.			
Boston,	765			
Calcutta,		60 cs.		
Chicago,			30 bxs.	
Corinto, Ont.,	20			
East Angus,	52			
Genoa,	47			
Messina,		11		
Milwaukee,	133			
Montreal,	14			
Naples,	16			
New York,	243			
Newport News,	654			
Philadelphia,	274			
Quebec,	5			
Tampico,	125			

Bone Waste—

Dunkirk,	8 t.	15 c.		£30

Boracic Acid—

Montreal,	2 t.	3 c.		£54
Stettin,	5	6	2 q.	133
Halifax,		6	3	9

Borax—

Portland.	10 t.			£151
Rotterdam,		6 c.		5
Cape Town,		10		7
Antwerp,	4	4	3 q.	62
Constantinople,	1			15
Ghent,	1			15
Vera Cruz,		16		12
Berlin,	23	19	3	348
Bremen,		15		11
Stettin,	2	12	3	30
Copenhagen,	10			160
Sydney,	80 kgs.			60
Wellington, N.Z.	10 t.			180
Montreal,	19	13	2	281
Stockholm,		8	1	6

Calcium Chloride—

New York,	10 t.	1 c.		£20
Rangoon,	3	2		7
Montreal,	4	5		9
Kurrachee,	7	19	3 q.	19
Odessa,	60	9		121

Carbolic Acid—

Florence,		10 c.		£37
Bombay,	1 t.			10
Copenhagen,		4	2 q.	2
Calcutta,	1			7

Caustic Potash—

Melbourne,	5 t.	9 c.		£150
Baltimore,		10		15

Caustic Soda—

Adelaide,	52 dms.			
Alexandria,	75			
Amsterdam,	19			
Antwerp,	76			
Auckland,	18			
Barcelona,	200			
Bari,	20			
Batavia,	9			
Beyrout,	15			
Bilbao,	105			
Bombay,	40			
Bordeaux,	30			
Boston,		125 brls.		
B. Ayres,			10 kgs.	
Calcutta,	50			
Cape Town,	10	6 cs.		
Cartagena,			25 pks.	
Cavalla,	4			
Chicago,		35		
Cincinatti,	30			
Delagoa Bay,		20 brls.		
E. London,		9 cs.		
Genoa,	309			
Hamburg,	15			
Hiogo,	436			
Hong Kong,	120			
Kingston,	15			
Leghorn,	35			
Levis,	25			
Madrid,	100			
Malta,	21			
Maranham,	4			
Melbourne,	25			
Montreal,	119			
Nagasaki,	153			
Nantes.		218		
New York,	600			
Odessa,	150			
Oporto,	115			
Palermo,	10			
Para,	30			
Pernambuco,	224			
Perth.	34			
Port Louis,	10			
Porto Alegre,	10			
Quebec,	535			
Rio de Janeiro,	7			
Rio G. Do Sul,	75			
Rotterdam.	34			
San Sebastian,	30			
Santos,	25			
Sao Paulo,	30			
Seville,	50			
Shanghai,	20			
Singapore,			10	
Sourabaya,	1 c46			
Susa,	50			
Tampico,	470			
Trieste,	28			
Venice,	207			
Vera Cruz,	100			
Vigo,			12 cks.	
Woodstock,	50			
Yokohama,	20			

Chemicals *(otherwise undescribed)*

New York,	9 t.		2 q.	£270
Corunna,		5 c.		28
Naples,		10		20
Malaga,	1			14
Algoa Bay,		4		3
Santander.	2	19		40
Rotterdam,	13	11		185
Bombay,	3	15		120
Maranham,	1		2	15
Philadelphia.	13	9		403
Genoa,	2	11		83
Lisbon,	4	6		12
Barcelona,	11	17		174

China Clay—

Baltimore,	300 cks.			
Boston,	480	400 sks.		
Calcutta,	60 t.			
Georgetown,	210 cks.			
Naples,	5			
Philadelphia,	200			
Piræus		220 bgs.		
Rio de Janeiro,	70			
St. John's,	8			
Trieste,	40			
Venice,		100		
Windsor Mills,	250			

Chloroform—

Vera Cruz,			2 q.	£12

Citric Acid—

Vera Cruz,		1 c		£6

Coal Products—

Aniline Colours

Calcutta,	9 cs.			
Canada,	1			
Genoa,	14			
New York,	12 cks			

Aniline Oil

Genoa,	22 dms.			
Philadelphia,	35			
Valleyfield,	2			

Aniline Salts

Genoa.	10 dms.			
Valleyfield,		20 cs.		

Creosote Oil

Bordeaux,	378 cks.			
Boston,		214 brls.		
Santos,		160		

Pitch

Galatz,	50 brls.			
New York,	55			
Varna,		10 cs.		

Tar

Galatz,	100 cks.			
Hamburg,	94 brls.		249 bls.	
Loango,	4			
Philadelphia,	150			

Copper Sulphate—

Messina,	8 t	11 c.	2 q.	£133
Danzig,	4	19	3	77
Libau,	11	17		180
Rotterdam,	31	18		512
Porto Alegre,	9	17		155
Lille,	9	19		165
Paris,	42	8	3	693
Montreal,	5	1		78
Oporto,	22	3	3	341
Vigo,		15		12
Lisbon,	31	19	2	494
Nantes,	1 [illegible]	12	1	1,769
Palermo,	12	9	1	191
Venice,	62	14	2	1,003
Genoa	196	9	1	2,879
Antwerp,	10	4		157
Galatz,		4		4
Cette,	52	8	3	883
Singapore.	2			31
Rotterdam,	20	4		312
Batoum,	49	18	3	799
Beyrout,	5	11	3	84
Leghorn,	134	2	3	2,108
Penang,	1	10		25
Naples,	162	11	1	2,543
Venice,	14	16	3	227
Bordeaux,	569	11	2	7,511

Copperas—

Las Palmas,	9 t.	7 c.		£19
San Francisco,	14	12		29
Quebec,		14		2

Cream of Tartar—

Colon,		5 c.		£19

Disinfectants—

Rangoon,	5 cs.			£10

French Chalk—

Bombay,	30 kgs.			

Guano—

Teneriffe,	2 t.	10 c.		£12
Madeira,	3			27

Magnesia—

Alicante,	30 cks.			

Magnesium—

Madras.	2 t.	8 c		£20

Magnesium Chloride—

Genoa,	8 t.	3 c.		£21

Magnesium Sulphate—

Lisbon,	48 bgs.			
Vera Cruz.	65 brls.			

Muriatic Acid—

Pernambuco,	1 t.	1 c.		£12

Paint—

Alexandria,	50 kgs.			
Algoa Bay,		3 cs.		
Amsterdam.		43 pks.		
Attaboe,	12			
Bahia,	20			
Bakana,	4			
Belize,	10	81		
B. Ayres,			3 cks.	
Cadiz,			12 dms.	
Calcutta,	423 bgs.			
Curacao,		1 cs.		
Hiogo,		4 pks.		
Iquique,			35 cks.	
Karachi,			4	
Lome,			2 dms.	
Malta,	42 kgs			
Milan,			2	
Nassau,			6 cks.	
Opolo,		5 cs.	5	
Parnahyba,		1		
Pernambuco,			60 dms.	
Pt. Natal,		119 pks.		
Rio G. Do Sul,	145		3 cks.	
Rochefort,		30		

St. Croix, 81
St. John's, Nfld., 14
Santos, 82
St. Thome, 4
Sierra Leone, 442 20 dms.
Singapore, 20
Trieste, { 20 / 10 cks.
Tripoli, 40
Vera Cruz, 11 cs.
Yokohama, 400

Painters Colours—
Bordeaux, 61 pks.
Boston, 120 bgs.
Callao, 6 cks.
E. London, 50 brls.
Galatz, 140
Genoa, 7 hxs.
Hamburg, 159 kgs.
Ibrail, 60
Kustendjie, 3
M. Video, 7
Montreal, 9 cks.
New York, 563 12
Para, 51
Rotterdam, 3
Santos 4
Savanilla, 156
Talcahuano, 150
Valparaiso, 30

Paraffin Wax—
Genoa, 110 cks.
Leghorn, 53 bgs.
Naples, 94
Pernambuco, 8 cks.
Rio de Janeiro, 10
Trieste, 10 bgs.
Venice, 50

Phosphorus—
Shanghai, 3 t. 6 c. £550
Hiogo, 3 7 633
Rio de Janeiro, 2 30
Kingston, 3 40
Vera Cruz, 4 40
Tampico, 5 50

Potash—
M. Video, 17 c. 3 q. £23

Potassium Bicarbonate—
New York, 1 t. 4 c. 1 q. £32

Potassium Bichromate—
Oporto, 1 ck. £12
Piræus, 6 t. 3 c. 206
Barcelona, 5 12 3 q. 197
Alexandria, 1 1 42
Vera Cruz, 8 14
Tampico, 1 35

Potassium Carbonate—
Baltimore, 1 t. 10 c. £31

Potassium Chlorate—
Copenhagen, 6 t. 5 c. £290
Philadelphia, 5 140
Boston, 5 150
St. Petersburg, 25 686
Lisbon. 1 30
Hong Kong, 13 10 200
Montreal, 10 3 q. 15
Kalmar, 1 50
Randers, 1 31
Moscow, 5 137
Stockholm, 5 148
Hiogo, 2 10 74
Vera Cruz, 1 5 35
Gutujewsky, 83 2,273
New York, 31 2 827

Potassium Nitrate—
Para, 1 t. 2 c. 1 q. £25

Potassium Prussiate—
Genoa, 3 t. 10 c. 1 q. £164

Salt—
Algoa Bay, 17 t. 19 c.
Ambrizette, 8
Antwerp, 50
Baltimore, 500
Banana, 50
Boston, 250
Brussels, 7 9
B. Ayres, 15 12
Calcutta, 7,469 100 cs.
Cameroons, 16
C. C Castle, 7 10
Cape Town, 100
Conakry, 58 17
Copenhagen, 250
Durban, 25
E. London, 144 16
Egwanga, 40 3
Fernando Po, 22 tcs.
Gefle, 62 10
Ghent, 25
Gibraltar, 5
Gd. Bassa, 10
Gd. Bassam, 25
Lagos, 100
Manoh, 71 5
Matadi, 103
Mauritius, 100
Melbourne, 75
Miramichi, 330
Monrovia, 37
M. Video, 8 2
Montreal, 256
Mossel Bay, 85
Mussera, 8
New York, 30
N. Orleans, 100
Noqui, 30
Norrkoping, 62 10
Old Calabar, 140 8
Opobo, 80 3 5 cks.
Picton, N.S., 510
Pt. Natal, 500
Quebec, 25
Rangoon, 1,418
Rio Del Rey, 17 17
Rotterdam. 200
St. John's, N.B., 440
San Francisco, 51 7
Sierra Leone, 5
South America, 37 7
Stockholm, 175
Sydney, 200 cs.
Toronto, 16 5
Valparaiso, 100

Salt Cake—
Antwerp, 110 t. £115
Baltimore, 100 9 c. 150
Genoa, 5 3 8
San Francisco, 5 3 96

Saltpetre—
Bahia, 30 t £40
M. Video, 8 c. 7
San Francisco, 1 5 26

Sheep Dip—
B. Ayres, 4 c. 2 q. £10
Rangoon, 15 16

Soap—
Accra, 365 bxs
Addah, 50
Akassa, 20
Algoa Bay, 1,685 50 cs. 25 bdls.
Attaboe, 50
Axim, 100
Bakana, 150
Barbadoes, 1,500 7
Barcelona, 50 bgs.
Batavia, 1,000 bxs.
Bathurst, 210
Berracoe, 50
Bombay, 710 45
Bonny, 400
Boston, 5 brls.
Buguma, 250
Calcutta, 250 50 cs.
Gibraltar, 100
Isles De Los, 30
Kingston, Jam., 2,059
Kimberley, 25
Canana, 208
C. C. Castle, 550
Chama, 50
Conakry, 80
Constantinople, 2
Delagoa Bay, 3,120 105
Demerara, 250
Dominica, 20
E. London, 1
Galata, 20
Freeburg, 140
Genoa, 221
Gd. Bassa, 50
Guayaquil, 50
Harbour Grace, 30
Highl'ndRiver, 150
Hong Kong, 1,000
Johannesburg, 80
Karachi, 1,000 2
Ladysmith, 50
Lagos, 664
Loango, 25
Madras, 10
Malta, 50
Mauritius, 51
Monrovia, 30
Montreal, 5 bls. 12 dms.
Mossel Bay, 400 bxs.
Mussera, 5
New York, 39 1 pk.
Ottawa, 20
Para, 320 2 100 bdls.
Penang, 15
Pt Elizabeth, 600
Pt. Natal, 1,853 23
Pretoria, 7
Punta Arenas, 20
Quittah, 25
Rangoon, 5 6
Rotterdam, 260
St. John's, N'd., 166
St. Lucia, 137
Salt Pond, 81
Savanilla, 6
Shanghai, 8,557
Sierra Leone, 430 100 pks.
Singapore, 801
S. America, 1,500
Strasburg, 140
Surinam, 75
Teneriffe, 674
Trieste, 4
Warri, 500
Winnebah, 50

Soda—
Magog, 3 cks.
Yokohama, 20 kgs.
Bari, 400 bgs.

Soda Alkali—
Adelaide, 60 brls.
B. Ayres, 17 50 cks.
Genoa, 750 bgs. 55
Leghorn, 38
Lisbon, 103 20
Suez, 2
Toronto, 35
Madrid, 80

Soda Ash—
Aalborg, 80 bgs.
Aleppo, 8 brls.
Amsterdam, 351
Baltimore, 200 17 cks.
Barcelona, 20
Bombay, 34
Boston, { 200 / 109 / 229 pks.
Brisbane, 243 cks.
Calcutta, 250 kgs. 100
Galt, 25
Gutujewsky, 374
Hamburg. 546
Helsingborg, 100 brls.
Hiogo, 218 bgs. 289 cs.
Hong Kong, 50 kgs.
Johannesburg, 20
Madras, 10 bgs.
Melbourne, 45 cks.
M. Video, 50
Montreal, 415 15 tcs.
Naples, 170
New York, 3,368 33 10
Newport News, 39
Pelotas, 10 brls.
Perth, 34
Philadelphia, 1,540 90 tcs.
Portland, O., 58 28
Rio de Janeiro, 230 brls. { 100
Rotterdam, 50
Santos, 20
Smyrna. 100
Sourabaya, 17
Sydney, { 3 tcs / 522
Trieste, 170
Valparaiso, 200
Wyburg, 8
Yokohama, 100 kgs.

Soda Crystals—
Bombay, 250 kgs.
Boston, 280 brls.
Hong Kong, 20
Kingston, 25
Madras, 40
Montreal, 160
Napanee, 60
New York, 280 cks.
Punta Arenas, 20
Quebec, 65
Rosario, 100
Singapore, 34
Valparaiso, 100

Sodium Bicarbonate—
Alexandria, 51 pks.
Algiers, 30 kgs.
Algoa Bay, 20
Amsterdam, 60
Batavia, 10
Batoum, 30
Bermuda, 14
Bombay, 175
Boston, 200 dms.
Brisbane, 100 20 bgs.
Cairo, 70
Cartagena, Sp., 90
Chalcis, 10
Constantinople, 20
Genoa, 119
Gutujewsky, 3,700 10 cks.
Hamburg, 40
Hamilton, 190
Hiogo, 500
Hong Kong, 74
Johannesburg, 40
Karachi, 150
Klang, 2
Libau, 64
Lisbon, 250
London, 265 25
Madras, 25
Malta, 70
Marseilles, 20
Melbourne, 405
Miramichi, 26
M. Video, 70
Montreal, { 365 / 13 / 250 dm
Naples, 80 100
Nantes, 45 pk
Odessa, 535
Oran, 75
Rotterdam, 25
Samsoun, 14
Sao Paulo, 100
Singapore, 6 ck
Smyrna, 20 dm
Sourabaya, 6 ck
Stamboul, 10
Sydney, 734
Trinidad, 100
Venice, 130
Vera Cruz, 20
Yokohama, 100

Sodium Carbonate—
Boston, 56 brls.
New York, 112
Rotterdam, 106
Almeria, 12 bgs.

Sodium Chlorate—
Hamburg, 3 cks.

Sodium Silicate—
Genoa, 17 brls.
Montreal. 20 cs.
Sfax, 10 brls.

Sodium Sulphate—
Bombay. 29 pk
Rio Grande Do Sul, 60 dm

Starch
Copenhagen, 5 cks.
Lisbon, 1 ck.
Pernambuco, 30 bgs.

Sulphur—
Philadelphia, 2 t. 15 c.
Parnahyba, 4 2 q.
Madeira, 6
Montreal, 300 3
Boston, 200 8

Sulphuric Acid—
Pernambuco, 4 c.

Superphosphates—
Hamburg, 29 t. 5 c.
Sourabaya, 75
Nantes, 68 6 3 q.
Valencia, 131 13 1
Las Palmas, 55

Tartaric Acid—
Colon, 1 c.

Varnish—
Antwerp, 18 cks.
Bilbao, 2
Catania, 1 cs.
Malaga, 1
Vera Cruz, 3

White Lead—
Bluefields, 60 kgs.

Zinc Chloride—
Bombay, 5 t.
Genoa, 1 11 c. 2 q.
Odessa, 1 5

MANCHESTE

Week ending April 27th.

Alum—
Muscat, 14 brls.

Aniline Colours—
Germany. 18 kgs. 1 cs.

Aniline Oil—
Germany. 10 tins 1 d

Aniline Salts—
Germany, 10 brls. 12 p

Benzol—
St. Fons, 30 cks.

Carbolic Acid—
Paris. 10 cs. 88 bl

Castor Oil—
Holland. 1 ck.

Dyestuffs (*otherwise undescri*
Sultanabad, 5 cs.

Glue—
Holland, 12 cks.

Naphtha—
Treport, 48 cks.

Na hthionate—
Germany, 6 cks.

Naphthylamine—
Switzerland, 14 cks.

Acid—
, 4 cks.
s' Colours—
y, 1 ck.
, 54 t. 3 c.
um Bichromate—
, 8 cs.
—
, 1 cs.
h, 50 bxs.
, 9
n—
1 cs.
Lead—
rg, 21 cks.

GLASGOW.

ek ending April 28th.

ium Sulphate—
oes, 101 t. 2 c.
s—
ore, £44 19s.
Kong, £81
ing Powder—
a, 66 t. 18¾ c.
c Acid—
£64
—
p, £230
ic Acid—
dam. £200
Soda—
, 15 t. 8 c.
ore, 10 16¾
roducts—
line
a, £30
tol
dam, £112
sote Oil
, 10 t. 13 c.
berg, 74 16
nthaline
rg, 99 t. 10 c.
n
, £110
rg, 390 t.
berg, 215 5
, 185
2,586
£35
on, 54
, 244 t. 2 c.
ersburg, 1,600
roducts *(otherwise undes.)*—
dam, £32
ts—
all, £234
al, 71
, 965
e—
, £182
, 470
—
dam. £670
itrate—
, £136
d Oil—
ai, 3 t. 6½ c.
, 5 3½
Kong, 2
ge—
dam, £38
od—
, £80
nese—
£95
e—
oes, 50 t.
, 10
rg, 314 lbs.
rs' Colours—
a, £258 16s.
91 11
Kong, £150
, qty.
Spain, ,,
on, ,,
ore, 74
, 48
ore, ,,
, 45
dam, 5
undland, 36
ai, £129 15s.

Paraffin Wax—
Christiania, £90
Rotterdam, 7
Antwerp, 85
Bordeaux, 377
St. Petersburg, 441
Potassium Bichromate—
Rouen. £360
Rotterdam, 184
Canada, 576
,, 2 t. 10 c.
Antwerp, 399
Potassium Chloride—
Canada, £64
Rosin—
Calcutta, £75
Salt—
Shanghai, 3 t. 11¼ c.
Valparaiso, 4 6
Shumac—
Bombay, £21
Soap—
St. John's, N'fd., 1 t. 2¼ c.
Sodium Bichromate—
Rouen, 15 t. 5¾ c.
Sodium Sulphate—
Calcutta, 5 t. 2¾ c.
Starch—
Rotterdam, 3 t.
Sulphuric Acid—
Rangoon, £75
Calcutta, 35
Tallow—
Rotterdam, 17 t. 2 c.
Treacle—
Christiania, 13 t. 9½ c.
Turpentine—
Singapore, £84
Varnish—
Shanghai, £32 10s.
White Lead—
Shanghai, qty.

HULL.

Week ending April 23rd.

Alkali—
Hango, 30 cks.
Libau, 15 bgs.
Alum—
Bari, 6 cks.
Bleaching Powder—
Stettin. 21 cks.
Carbolic Acid—
Danzig, 1 cs.
Caustic Soda—
Amsterdam, 3 cks.
Stettin, 18
Chemicals *(otherwise undescribed)*
Alexandria, 12 pks.
Amsterdam, 73 cks.
Antwerp, 2 20
Bari, 20 cs.
Bombay, 125
Bordeaux, 30
Christiania, 15 1,107 slbs.
Copenhagen, 4 20 pks.
Drontheim, 10
Danzig, { 80 kgs. 37 cks.
Gothenburg, 8
Hamburg, 15 328
Hango, 1
Kurrachee, 10
Libau, 15 5
Odessa, 50 17
Reval, 42
Rotterdam, 86
Stettin, 139
Cottonseed Oil—
Alexandria. 17 c.
Amsterdam, 781
Antwerp, 509
Bremen, 17
Constantinople, 40
Copenhagen, 277
Dunkirk, 412
Hamburg, 406
Harlingen, 101
Rouen, 1,320
Rotterdam, 550
Stettin. 200
Stockholm, 381
Dyestuffs *(otherwise undescribed)*
Christiania, 2 cks.
Hamburg, 1 3 cs.
Riga, 1 kg.
Reval, 4
Stettin, 60 bls.

Guano—
Dunkirk, 50 t.
Linseed Oil—
Amsterdam, 95 c.
Antwerp, 117
Bergen, 7
Bombay, 231
Bordeaux, 35
Christiania, 131
Christiansund, 18
Drontheim, 184
Fiume, 315
Ghent, 4
Hamburg, 632
Rotterdam, 104
Copenhagen, 7
Manure—
Danzig, 2,540 bgs.
Ochre—
Dunkirk, 6 cks.
Paint—
Bombay, { 224 kgs. 17 cks.
Drontheim, 4
Kurrachee, 107 kgs.
Painters' Colours—
Amsterdam, 3 cs.
Antwerp, { 63 cks. 3 68 pks. 52 dms.
Bari, 1
Bergen, 1
Bombay, 20
Christiania, 1 1 20
Christiansand, 50
Christiansund, 1 6
Copenhagen, 19 32 pks.
Danzig, 15 2 25
Ghent, 5 40 dms.
Gothenburg, 10 128
Hamburg, 10 10
Konigsberg, 35
Kurrachee, 10 kgs. 8
New York, { 55 157 cks.
Odessa, 14 3 17 pks.
Reval, 1
Rotterdam, { 4 15 dms. 12 pks.
Rouen, 28
Stettin, 1 35
Phosphate—
Gothenburg, 762 bgs.
Pitch—
Antwerp, 547 t.
Hango, 50 cks.
Salt—
Harlingen, 4 cks.
Slag—
St. Brieux, 166 t.
Soap—
Copenhagen, 2 cs.
Hamburg, 3
Tallow—
Rotterdam, 83 cks.
Tar—
Christiania, 6 cks.
Gothenburg, 8 brls.
Hamburg, 23
Hango, 100
Rotterdam, 2
Copenhagen, 20
Treacle—
Drontheim, 25 cks.
Bergen, 45
Turpentine—
Libau, 20 cks.
Varnish—
Antwerp, 1 ck. 1 cs.
Bombay, 75 dms.
Gothenburg, 1
Hamburg, 1
Kurrachee, 2
Stettin, 11

TYNE.

Week ending April 23rd.

Alkali—
Amsterdam, 11 t. 9 c.
Rotterdam, 5 8
Savona, 19 10
Alum Waste—
Aarhuus, 20 t. 1 c.
Ammonium Sulphate—
Hamburg, 50 t. 13 c.
Anthracene—
Rotterdam, 33 t. 8 c.
Antimony—
Rotterdam, 2 t.

Barium Binoxide—
Rouen, 13 t. 1 c.
Bleaching Powder—
Copenhagen, 1 t. 10 c.
Christiania, 20 8
Antwerp, 43 10
Rotterdam, 10 12
Aarhuus, 20
Riga, 22 17
Bergen, 1 3
Gothenburg, 30
Caustic Soda—
Aarhuus, 1 t. 3 c.
Antwerp, 4 18
Genoa, 24 6
Gothenburg, 5 16
Harlingen, 4 18
Seville, 33 17
Colours—
Genoa, 12 c.
Creosote Oil—
Rouen, 1 t. 7 c.
Litharge—
Gothenburg, 2 t. 12 c.
Riga, 9 19
Magnesia—
Hamburg, 1 t. 5 c.
Manganese—
Antwerp, 12 t. 2 c.
Naphthaline—
Riga, 12 t. 19 c.
Paint—
Antwerp, 4 t. 10 c.
Hamburg, 2
Havre, 1 5
Gothenburg, 8
Pitch—
Rouen, 20 t.
Soda—
Christiania, 2 t. 18 c.
Rotterdam, 37
Gothenburg, 4 5
Vardo, 1 9
Soda Ash—
Gothenburg. 162 t. 10 c.
Sodium Silicate—
Genoa, 5 t. 2 c.
Sodium Sulphate—
Gothenburg, 5 t. 5 c.
Sulphur—
Gothenburg, 107 t.
White Lead—
Copenhagen, 14 c.

GOOLE.

Week ending April 20th.

Benzol—
Boulogne, 48 cks.
Chemicals *(otherwise undescribed)*
Amsterdam, 40 cks.
Boulogne, 12
Coal Products *(otherwise undes.)*—
Ghent, 1 ck.
Hamburg, 1 cs.
Rotterdam, 1
Colours—
Antwerp, 3 cks.
Boulogne, 3 cs. 2 dms.
Manure—
Antwerp, 300 bgs.
Dunkirk, 200
Pitch—
Antwerp, 616 t.

GRIMSBY.

Week ending April 23rd.

Alkali—
Hamburg, 10 cs.
Rotterdam, 10
Chemicals *(otherwise undescribed)*
Hamburg, 2 kgs.
Coal Products *(otherwise undes.)*—
Dieppe, { 71 cks. 4 kgs. 30 brls. 9 pks.
Colours—
Antwerp, { 2 kgs. 3 cks. 4 cs.
Hamburg, 2
Dyestuffs *(otherwise undescribed)*
Malmo, 1 cs.
Manure—
Esbjerg, 1,000 bgs.

PRICES CURRENT.

WEDNESDAY, MAY 4TH, 1

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
,, Glacial	,,		39/-	
Arsenic S.G., 2000°	,,	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
,, (Cylinder), 30° Tw.	,,	0	3	0
Nitric 80°Tw.	per lb	0	0	1⅝
Nitrous	,,	0	0	1¾
Oxalic	nett ,,	0	0	3½
Phosphoric, 1750°	,,	0	0	11¾
Picric	,,	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
,, (monohydrate)	,,	5	10	0
,, (Pyrites, 168°)	,,	3	0	0
,, ,, 150°	,,	1	5	0
,, (free from arsenic, 145°)	,,	1	7	6
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	,,	0	1	2½
Arsenic, white powdered	nett per ton	18	10	0
Alum (loose lump)	,,	4	10	0
Alumina Sulphate (pure)	,,	4	0	0
Aluminoferric	,,	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne ,,	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
,, ·880=28° B.	,,	0	0	2¾
,, =24° B.	,,	0	0	1¾
,, Carbonate	nett ,,	0	0	3
,, Muriate	per ton	17	15	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	35/-	&	33/-
,, Nitrate	per ton	31	0	0
,, Phosphate	per lb.	0	0	3
,, Sulphate (grey) London	per ton	8	15	0
,, ,, (grey) Hull	,,	8	12	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt ,,	,,	0	0	4¾
Antimony	per ton	31	15	0
,, (tartar emetic)	per lb.	0	0	6¾
,, (golden sulphide)	,,	0	0	10
Barium Chloride	per ton	7	0	0
,, Carbonate (native)	,,	3	10	0
,, Sulphate (native levigated)	,,	42/6	to	65/-
Bleaching Powder, 35 %	nett ,,	5	2	6
,, Liquor, 7 %	,,	3	10	0
Bisulphide of Carbon	,,	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	,,	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	,,	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	11
,, 50/90 ,,	,,	0	1	0½
Carbolic Acid (crude 60°)	per gallon	0	2	1
,, (crystallised 40°)	per lb.	0	0	7
,, (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	,,	0	0	2½
,, (filtered for Lucigen light)	,,	0	0	3
Crude Naphtha 30 % @ 120° C.	,,	0	0	4
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	,,	2	19	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	3
Copper	per ton	51	11	3
,, Sulphate	,,	16	10	0
,, Oxide (copper scales)	,,	46	0	0
Glycerine (crude)	,,	24	0	0
,, (distilled S.G. 1250°)	,,	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
,, Sulphide (antimony slag)	,,	2	0	0
Lead (sheet)	,,	14	15	0
,, Litharge Flake (ex ship)	,,	18	0	0
,, Acetate (white ,,)	,,	26	0	0
,, ,, brown ,,)	,,	17	10	0
,, Carbonate (white lead) pure	,,	17	0	0
,, Nitrate		20	0	0

		£	s.
Lime, Acetate (brown) (ex ship)	per ton	6	0
,, ,, (grey) (ex ship	,,	7	15
Magnesium (ribbon and wire)	per oz.	0	2
,, Chloride (ex ship)	per ton	8	10
,, Carbonate	per cwt.	1	17
,, Calcined Magnesia	per ton.	8	0
,, Sulphate (Epsom Salts)	per ton	2	12
Manganese, Sulphate	,,	17	10
,, Borate	per cwt.	2	5
,, Ore, 70 %	per ton	3	10
Methylated Spirit, 61° O.P.	per gallon	0	1
Naphtha (Wood), Solvent	,,	0	2
,, ,, Miscible, 60° O.P	,,	0	3
Oils :—			
Cotton-seed	per ton	17	5
Linseed	,,	18	5
Stearine	per ton	24	10
Phosphorus (yellow)	per lb.	0	1
,, (red)	,,	0	2
Potassium Bichromate	nett per lb.	0	8
,, Carbonate, 90% (ex ship)	per ton	15	15
,, Chlorate	per lb.	0	0
,, Cyanide, 98%	,,	0	1
,, Hydrate (Caustic Potash) 90 %	per ton	23	0
,, ,, (Caustic Potash) 75/80 %	,,	19	0
,, Potash Hydrate Liquid 50 %	,,	11	0
,, Nitrate (refined)	per cwt.	1	1
,, Permanganate	per cwt.	3	10
,, Prussiate Yellow	per lb.	0	0
,, Sulphate, 90 % (ex ship	per ton	9	15
,, Muriate, 80 % do.)	,,	8	15
Silver (metal)	per oz.	0	2
Sodium (metal)	per lb.	0	2
,, Carb. (refined Soda-ash) 48 %	nett per ton f.o.r. w'hse.	4	15
,, ,, (Caustic Soda-ash) 48 %	,, ,,	4	5
,, ,, (Carb. Soda-ash) 48%	,, ,,	4	0
,, ,, (Alkali) 58 %	,, ,,	4	2
,, ,, (Soda Crystals)	,, ,,	2	5
,, Acetate (ex-ship)	,,	11	5
,, Arseniate, 45 %	,,	14	7
,, Chlorate	per lb.	0	6
,, Borate (Borax)	net, per ton.	12	10
,, Bichromate	,, per lb.	0	0
,, Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton 10 ton lots		8	5
,, ,, (74 % Caustic Soda) ,, ,, ,,		8	0
,, ,, (70 % Caustic Soda) ,, ,, ,,		7	2
,, ,, (60 % Caustic Soda) ,, ,,		6	2
,, ,, (pure liquor 90° Tw.) ,, ,,		3	15
,, ,, 77/78 % powdered (99 % hydrate)	,,	12	0
,, Bicarbonate	,,	6	10
,, Hyposulphite	,,	5	5
,, Manganate, 25%	,,	15	0
,, Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7
,, Nitrite, 98 %	per ton	25	10
,, Phosphate	,,	9	10
,, Prussiate	per lb.	0	0
,, Silicate (glass)	per ton	4	10
,, ,, (liquid, 100° Tw.)	,,	3	7
,, Stannate, 40 %	per cwt.	3	2
,, Sulphate (Salt-cake)	per ton.	0	19
,, ,, (Glauber's Salts)	,,	1	7
,, Sulphide	,,	6	15
,, Sulphite	,,	5	0
Strontium Hydrate, 100%	,,	10	15
Sulphocyanide Ammonium, 95 %	per lb.	0	0
,, Barium, 95 %	,,	0	0
,, Potassium	,,	0	0
Sulphur (Flowers)	per ton.	7	7
(Roll Brimstone)	,,	6	3
,, Brimstone : Best Quality	,,	4	11
Superphosphate of Lime (26%)	,,	2	10
Tallow	,,	21	10
Tin Crystals	per lb.	0	0
,, English Ingots	per ton	68	10
Zinc (Spelter)	,,	19	0
,, Chloride (solution, 100° Tw.)	,,	6	0
,, Sulphate, Crystal	,,	6	5

THE

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(GAS DEPARTMENT.)

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Further information may be obtained from Mr. Leonard G. Hall, Gas Engineer.

Sealed Tenders, endorsed "Tender for Tar and Ammoniacal Liquor," to be addressed to the Chairman of the Gas Committee, Clwyd-street Offices, Rhyl, on or before the 20th of May, 1898.

The Committee do not bind themselves to accept the highest or any Tender.

ARTHUR ROWLANDS,
Clerk to the Council.

Council Offices, Rhyl,
May 7, 1898.

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SOMERSET HOUSE AND WATER ANALYSIS.

THE attitude of Somerset House in regard to the analysis of waters is a subject which has called for attention on more than one occasion, and to judge by the developments of the past month, the question is again ripe for further consideration.

Three weeks ago we published an article on a polluted water case at Maidstone, in which the local magistrates referred to the Somerset House chemical department as arbitrators. In such cases it is, and long has been, customary to use this department as a referee, although water is specially excluded by the clause which constitutes the Department official referees under the Food and Drugs Act.

It appears that, strictly speaking, the express permission of the Inland Revenue Board is necessary before the chemical officers can analyse a water and adjudicate thereon, but the general practice of undertaking water analyses has been followed for years with the approval of the Board.

In the face of the facts set forth in the recent issue referred to, and also the notorious parallel case in 1893, we are brought face to face with the question—Is it advisable to allow this "practice," which has no *locus standi* either legally or chemically, to continue in force? After reviewing the present and the past, we are compelled to answer the question by an emphatic negative, on the following grounds.

If local magistrates cannot come to a decision on the evidence of independent analysts and the Medical Officer of Health, little good can result from calling in Somerset House as a referee, when the officials know nothing of the case, or of the local conditions; neither have they gained a superlative reputation in the matter of water analysis *per se*.

The reports in the two cases cited contain statements which it is hard to excuse, much less justify. We have a copy of the Maidstone report before us as we write, and the full report in no way modifies the sweeping assertions made in the excerpt we quoted on April 23rd.

The Local Government Board has expressly established the *dictum* that "We must go beyond the *laboratory* for evidence of any drinking water being *free* from dangerous organic pollution," yet on the strength of the blind assumptions contained in the Somerset House report, the Maidstone magistrates refused to close the suspected well, albeit the well was in close proximity to houses in which 14 cases of enteric fever had occurred during the recent epidemic, and was condemned by the Medical Officer of Health. Is this a commendable way of stifling desirable precautions and well-considered prosecutions?

Again, in the case in 1893, after a delay of two months and the prosecution of several inquiries as to the circumstances of the case, the following report was made declaring the water to be of

> Moderately good quality and affording no evidence of serious contamination with organic impurities. There are good grounds for

believing, from the character and amount of the chief mineral matters contained in the water, that the great bulk of the water is derived from a deep or distant source, and that the well is not dependent for supplies from the soil of the immediate neighbourhood; for it would be reasonable to expect more definite evidence of present sewage contamination if leakage took place from the drain-pipes, which lie—it must be admitted—in almost dangerous proximity to the well. Although this water is unsatisfactory in some respects, and we should not recommend it, we do not feel justified from a consideration of the results of the analysis in giving an opinion that the use of the water for potable purposes would be dangerous to health.

How much nearer a solution of their difficulty would the magistrates be when in possession of such a contradictory, indefinite pronouncement? When the report is not bewilderingly vague, it is questionably rash, as in the Maidstone case, for even Mr. Hanbury, when questioned by Mr. Ellis in Parliament, admitted as much when he said, "I think their report would go perhaps beyond their powers."

The foregoing shows very clearly that the only value of Somerset House as a referee in regard to water supplies is as a machine for checking analytical *data*, and there is no necessity whatever to make it a Court of Reference for this purpose. Water was designedly excluded under the Food and Drugs Act from the jurisdiction of the Inland Revenue laboratory, so why go out of the way to systematically violate the Act, when this procedure is totally uncalled for and the results dubious?

We think there is no need to ask for an explanation as to, when, why, and by whom this irregular "practice" of acting as water referees was established and rendered a "usual practice" by the unconditional approval of the Inland Revenue Board. But we do think it is time to ask that this matter should be looked into, and an effort made to ensure the three following precautions against a repetition of the Maidstone fiasco being taken:—(1) That the present irregular procedure and presumptive approval of the Board be revoked. (2) That it be rendered compulsory for the express sanction of the Inland Revenue Board to be granted whenever their laboratory officials are desirous of acting as referees in water supply cases, and that their report shall be duly invested with plenipotentiary dignity, and duly attested, by bearing the signature of the head of the laboratory. (3) That in the capacity of referees the powers of the officials be defined and limited so that the report shall be confined to the analytical consideration of the water, leaving the magistrates to decide whether the *data* favour the *pros* or the *cons* in regard to the other analytical reports. They can then re-weigh the medical testimony in the light of whichever analysis the Somerset House report confirms and adjudicate accordingly.

Cannot the Institute of Chemistry assert itself in this matter?

LIQUID HYDROGEN AND HELIUM.

PROFESSOR DEWAR liquefied hydrogen last Tuesday at the Royal Institution, and exhibited the liquid to Lord Rayleigh, who was fortunate enough to be on the premises at the time. Hydrogen has been liquefied before—in theory. That is to say, experimenters have seen or supposed that they saw a momentary mist inside a glass tube, and have eked out that equivocal observation with a mass of calculated results. But Professor Dewar has actually produced the liquefied gas to the amount of half a wine-glassful in five minutes, by a process which would equally have produced a pailful had the requisite supply of pure hydrogen been forthcoming. This is a perfectly unique and unprecedented feat. Liquid hydrogen in quantity is not only of enormous scientific interest in itself, but is also of immense importance as placing a new and potent instrument in the hands of investigators who have hitherto found their progress barred by its absence. The boiling point of the liquid may be placed at from 30° to 35° of absolute temperature, or in other words, at about 240° below zero on the Centigrade scale. Some conception of the degree of cold attained may be gathered from the fact that a tube closed at the lower end, when immersed in the liquid, was almost instantaneously filled with solid air. It may be observed, as a matter of scientific interest, that the density of the liquid far exceeds that arrived at by calculation. There is reason to believe that it will be found to be about 0·6, water being unity. This result would agree very closely with the density of hydrogen when occluded by palladium, as established by Professor Dewar 25 years ago.

Helium is a rare gas which has hitherto resisted all attempts to effect its liquefaction. It is stored in considerable quantity at the Royal Institution, and was also liquefied on Tuesday by the use of the liquid hydrogen. Its boiling point appears to lie not very far from that of hydrogen itself. Liquid hydrogen will never be as cheap as liquid air, because nature does not supply the gas in equal abundance. But nothing except the cost now stands in the way of producing liquid hydrogen in any quantity that science may require, whether for investigation of its own properties or for the prosecution of various lines of research into the constitution of matter in general.—*Times*.

THE NEW WELSBACH BURNER.

THE new burner differs from the "93" Welsbach in that it does away with the necessity for a chimney for the protection of the mantle, but its chief advantage is that it will give a light of from 25 to 30 candle-power per cubic foot of gas, as against 2½ c-p. from the ordinary "fish-tail," and against 17 c-p. obtained with the "93" Welsbach. It therefore gives just upon 60 per cent. better results than the burner which has already made the Welsbach incandescent system famous all over the world—at least, wherever gas is known as an illuminant.

Mr. Julius Moeller, the manager of the company, in explaining the principle and utility of the burner, said that it was a form of Bunsen burner, but the principle on which it was constructed was quite novel. By means of this burner they obtained a much more complete mixture of air and gas, and consequently they obtained as perfect combustion in this burner as was possible, and such as had never before been obtained by any Bunsen burner. The ordinary Bunsen burner, he explained was carefully regulated to a given pressure, and as long as that pressure was maintained gave a good Bunsen flame; but if a larger amount of gas were passed with a higher pressure at a certain point, the burner would smoke, because the amount of gas sent through the nozzle was in excess of the amount of air that this burner could draw in, and in consequence a large amount of gas passed off imperfectly consumed, and deposited carbon on the mantle. A great many devices had been tried to obviate this, but the only safe way of keeping the Bunsen flame in a good, sound condition in the old burners was to regulate them at a certain pressure.

In the new burner the results were different. Very exhaustive experiments had been made, and they had convinced themselves that all that was required to be done was to regulate the burner to the minimum pressure obtainable, and, once so regulated, whatever might be the increase of pressure, the only result upon the flame was that it became hotter and hotter, and consequently the light would become more brilliant. The next important advantage of the new burner was that it gave those results without requiring a chimney. Not only had the breakages of chimneys been a large item with their customers and answerable for a good many breakages of mantles, but they also caused a large amount of inconvenience on account of getting dirty. Another drawback to the chimney was that it drew a large amount of air through the gallery hole, which air was impinged by the strong current against the mantle, and there was no doubt that that had had the effect of damaging the mantle to a certain extent. They had found that with these new burners the mantle had practically a longer life than before with merely a small globe. The main advantage of the burner was the facility of subdividing it into different sizes. They had burners consuming 6 cubic feet, others consuming 4 cubic feet and 4½ cubic feet, and 1½ and 1, and the ratio of light obtained above 1 cubic foot of gas in these various burners was the same; it was practically 25 to 30 candle-power at normal pressure, and they obtained that with the large and small as well as with the medium burners.

At a luncheon which subsequently took place at the Hotel Windsor, Sir H. C. Burdett (the chairman) presided.

A PLEA FOR RESEARCH.

Professor Armstrong, in proposing the toast of "The Gas Engineers," incidentally urged the need for the endowment of research in this country, pointing out that though we were pre-eminent as regards the financial and commercial development of such inventions, no English name occurred in connection with the scientific side; and that to the fact that Dr. Auer von Welsbach, as a young man preparing for his degree, was set by his professor to investigate the "Rare Earths," we owe the invention of the mantle which bore his name.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Cyanides for Coke and Gas. P. Naef. 9,462. April 25.
Smelting Ores and Recovering Bye-products. P. Naef. 9,463. April 25.
Burning Limestone and Recovering Bye-products. P. Naef. 9,464. April 25.
Apparatus for Applying Paint. R. and R. S. Scott and H. Wilson. 9,485. April 25.
Pure Sodium Chloride from Crude Brine. A. E. Alexander. 9,577. April 26.
Drying Superphosphates. W. Flecken. 9,585. April 26.
Extracting Glycerine. Countess R. de Diesbach. 9,599. April 26.
Chemical Compounds by Electrolysis. J. W. Richards and C. W. Roper. 9,637. April 26.
Electrolytic Production of Metallic Sulphides. J. W. Richards and C. W. Roper. 9,638. April 26.
Nitrogenous Charcoal. J. W. Dougal and J. Nimmo. 9,658. April 27.
Solid Easily Soluble Alkaline Silicate. F. Henkel. 9,730. April 27.
Caustic Alkali, Bleach, etc., by Electrolysis. F. H. and F. E. Bowman. 9,739. April 28.
Oxygen Generating Apparatus. W. Blackie. 9,772. April 28.
Decolourising Vegetable Oils. S. G. Rosenblum and The Commercial Ozone Syndicate, Ltd. 9,824. April 28.
Manufacturing Caustic Alkali and Bye-products. J. Armstrong. 9,831. April 28.
Manufacture of Salt. T. C. Lowden. 9,904. April 29.
New Phosphorus Compounds. H. E. Newton. 9,966. April 30.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

A New and Improved Process and Apparatus for Purifying and Utilizing Town Sewerage. G. A. de Katow, 93, Chancery-lane, London (communicated by Messrs. Reinsch & Co., Wiesbaden). Eng. Pat. 8,921. March 31, 1897.

The sewage is screened to remove coarse bodies. It passes to a separator, in which all sand is removed and cleaned. Chemical precipitation is resorted to for the liquid portion, the treated sewage being run into settling tanks, in which dredgers work to collect and remove the sludge. The latter is mixed with such of the other solid refuse as is suitable to make a manure. There are five figures showing the general arrangement of the plant, which is complicated in comparison with the amount of work it is destined to achieve.

Improvements in the Manufacture or Production of Ozone and in Apparatus therefor. M. Otto, 8, Passage Gourdon, Paris. Eng. Pat. 11,010. May 3, 1897.

The object is to avoid the use of dielectrics such as glass, etc., which are liable to accidents, and yet are essential to prevent short circuiting, which is highly prejudicial. To this end half the electrodes are movable and rotate, so that the discharge only takes place for a very short time, at intervals. It takes place directly into the air, etc., to be ozonised. The arrangement and construction of the electrodes is ingenious, and is illustrated by four figures.

An Improved Process and Apparatus for Producing Calcium Carbide. H. L. Hartenstein, Bellaire, Belmont, Ohio, U.S.A. Eng. Pat. 28,226. November 30, 1897.

A small blast furnace without a hearth is supported on columns so that a crucible-shaped chamber can be run underneath it. This chamber has electrodes in the walls and a number of tuyere-like feeders. Limestone is calcined in the blast furnace, and while hot a charge is passed into the crucible beneath. The supply of lime having been cut off by a sliding plate, powdered coke is fed down a wide pipe to the tuyere-like feeders. Its passage is aided by a supply of coal gas under pressure. This not only mixes the lime and coke dust, but itself burns and helps to heat the charge before the passage of the electric current. The molten carbide is drawn off when formed. The process is therefore practically continuous, as the substitution of a fresh furnace bottom when cleansing or repairs are necessary is a very simple matter. There are five figures.

Improvements in Apparatus for Obtaining Salt from Brine and for similar Purposes. W. Shedlock, 9, Austin Friars, London. Eng. Pat. 11,240. May 5, 1897.

The automatic collection of salt crystals from ordinary salt-pans is provided for. A circular pan is heated internally by steam coils and externally by steam chambers. The coil is carried on cross-bars, so as to allow a revolving scraper to operate beneath it, and pass the salt crystals from the bottom of the pan to an exit communicating with an external trough, in which an elevator works. The buckets on the latter feed the salt into moulds which revolve on a carrier round the periphery of the pan. As these moulds rotate, in the course of being filled, any mother liquor finds its way back into the pan. The same applies to the excess salt crystals fed to any one mould. At one point in their passage round the pan these moulds are emptied. If preferred, buckets running on an overhead traveller can be used instead of the moulds. The scrapers are worked from beneath the pan by a shaft and gearing. There are seven figures.

A New Manufacture of a Salt or Compound containing Bromine. B. C. Hinman, 22, Cliff-street, New York. Eng. Pat. 8,671. April 5, 1897.

An alkaline bromate is formed by saturating bromine with chlorine and adding a solution of an alkaline hydrate or carbonate. If there is not enough chlorine, bromides are formed. If preferred, the alkali may be saturated with chlorine and the bromine added. In obtaining a dry salt for shipment, care must be taken to keep the temperature below the decomposing point of the bromate. Gold ores leached with a solution of bromate and hydrochloric acid give a solution of the bases present, gold chloride, and bromine, entirely in the free state, which is once more converted into bromate.

Improvements in the Purification of Liquids. H. McPhail, The Towers, Wakefield, Yorks. Eng. Pat. 13,429. May 31, 1897.

It is proposed to purify glycerine from albuminous and organic matters by acidifying with sulphurous acid or the weak acid distillates from crude glycerine, and adding sesqui-sulphate of iron. Various ways of applying this treatment are described, but the net result is the removal of the organic matter as a flocculent precipitate, and also the removal of arsenical compounds. If great purity is desired a non-caustic alkali, such as sodium bicarbonate, is added, when a further precipitation results. This alternate acid and alkaline precipitation may be continued at will, but it is preferable to ascertain by preliminary trials how much sesqui-sulphate is required, and to add enough to remove all the arsenical compounds at once. Lyes containing sulphate of soda are first treated with an acid and ferric chloride, followed by sesqui-sulphate if necessary. When the weak acid distillates are used instead of sulphurous acid they must first be de-arsenicated by treatment with sesqui-sulphate. The latter is prepared by mixing with a solution of copperas exactly half as much sulphuric acid as it contains, and adding nitric acid to the mixture while in a boiling state, until all nitrous fumes cease to appear. On evaporating to dryness excess of nitric acid is expelled, and the sesqui-sulphate left as a powder.

Improvements in Non-conducting Coverings for Boilers, Pipes, and for other Purposes. J. R. Green, 16, Providence-street, Ipswich. Eng. Pat. 15,740. July 2, 1897.

Small tubes made of asbestos paper or some other uncharable substance are heated to a high temperature, and then closed hermetically at the ends. When cold a partial vacuum results. These are laid over the vessel to be covered and enclosed in a suitable envelope of cloth, metal, etc. They may also be wound round pipes, etc., in a spiral to form a non-conducting covering.

GOLD OUTPUT IN THE RAND.

THE output from the Witwatersrand district during April, as cabled by the Chamber of Mines of the South African Republic, amounts to 335,125 ozs., while from outside districts 18,118 ozs. are reported, a total of 353,243 ozs. This shows an increase of 5,600 ozs. as compared with the previous total. No comparison with the corresponding month of 1897 can be made.

	1895.	1896.	1897.	1898.
	oz.	oz.	oz.	oz.
January	177,463	148,178	209,832	336,577
February ...	169,295	167,018	211,000	321,238
March	184,945	173,952	232,067	347,643
April	186,323	176,707	235,698	353,243
May	194,580	195,008	248,305	—
June	200,941	193,640	251,529	—
July	199,453	203,873	242,479	—
August	203,573	213,418	259,603	—
September ..	194,764	202,561	262,150	—
October	192,652	199,889	274,175	—
November ..	195,218	201,113	297,124	—
December ..	178,428	206,517	310,712	—
Total ..	2,277,635	2,281,874	3,034,674	1,358,701

MORE COKE OVENS IN THE STATES.—The Semet-Solvay Company, Syracuse, N.Y., is now building 120 recovery ovens at Ensley, seven miles from Birmingham, and will furnish coke and gas to the blast furnaces there owned by the Tennessee Coal Iron and Railway Company.

THE PROGRESS OF SEWAGE DISPOSAL.

CRITICISM OF THE BACTERIAL PROCESS.

THE Medical Officer of Health for Worcestershire (Mr. G. H. Fosbroke) has, at the request of the Sanitary Committee of the County Council, investigated the working of bacteriological filters, or, as they are sometimes called, bacteriological tanks, as a means of dealing with sewage. In summing up his report on the working of various appliances of this character, he points out that even though some of these bacteria tanks have been tried on a practical scale, still they cannot be said to have as yet passed beyond the

EXPERIMENTAL STAGES.

The action of suitable land (the best of all sewage purifiers) and of bacteriological filters, is much the same. Indeed the intermittent filters act very similarly to the downward filtration beds laid out many years back by Mr. Bailey Denton, on the advice of Dr. Frankland, at Merthyr Tydfil. "For such reasons," he proceeds, "I submit that the bacteriological tanks are

MOST PROMISING,

and will probably lead to a revolution of sewage disposal. That this is so is evidenced by the fact that Parliament, acting on the advice of the Local Government Board, have just appointed a Royal Commission to report on sewage disposal generally. Should the bacteriological tanks prove as successful as they promise to be, then many local authorities will most probably be relieved from the too often insuperable difficulty they experience in providing land for sewage treatment, without which the Local Government Board will not at present sanction any sewage scheme. It seems to me probable that in the near future the present regulations of the Local Government Board with respect to sewage will have to be materially modified, and that even should the provision of land be insisted upon, still the adoption of the bacteriological system will so greatly assist in the disintegration of such refuse that the area asked for will be considerably less than it now is. As previously stated the gentlemen who have developed the bacteriological tanks affirm that the effluent from sewage after such treatment may safely be passed into watercourses; but, in my opinion, the relative proportions of the effluents and the streams must be carefully taken into account. Of course it should be borne in mind that the rates of purification are governed by the extent, depth and construction of the filters, and that in cases where sewage effluents of high standards are necessary the filtering operations must be proportionately perfected.

DEPENDS ON THE CHARACTER OF THE SEWAGE.

With respect to the character of the sewage with which bacteriological tanks are capable of dealing a decidedly open view should be entertained, for, in my opinion, it is not at present proved that manufacturers' refuse can be satisfactorily dealt with, or that acid waste refuse, if perceptible in sewage, will not stultify microbial action."

THE "SHAW" PHOSPHATE AND CEMENT MILL.

THESE mills constitute a distinct departure from the usual form of millstone grinding machines, the improvements removing many of the old troubles connected with lubrication and even running.

It is a recommendation to say that these mills have been perfected to meet the requirements of the makers themselves; Messrs. Crone and Taylor, of Sutton Oak, St. Helens, being large phosphate grinders as well as general milling engineers. It was owing to the trouble experienced at their Sutton Oak Manure Works that their manager, Mr. Shaw, instituted the experiments which led up to the present form of mill. Mr. Shaw employs a structure consisting of a large circular bed-plate, bolted on the framework of the mill. From this bed-plate there rises a centre-piece, in the form of a strong iron cylinder, containing a brass bush about 1 ft. in length, through which the spindle passes. The length of this brass bearing is an important factor in the successful working of the apparatus. Fixed in the centre-piece, which rises from the iron bed-plate, a rigidly vertical position of the spindle is assured. At the top of the brass bush is placed the oil container, a strong circular vessel of iron, having a short tube the same diameter as the bush, rising through its centre. The vessel is slipped into its place on the top edge of the bush, and forms with the bush, the neck in which the spindle revolves. By an arrangement of syphon wicks, the oil flows as required over the upper edge of the container, into the bush, and so lubricates the revolving spindle. The circular cap or driving-box (which engages with the grinding stone and revolves it upon the bedstone) fits over the outer edge of the oil vessel, and prevents any of the grist from working into the vessel or the spindle neck. The inside of the cap is accurately turned, and forms a dust-tight working joint with the outer edge of the oil vessel, so as to afford perfect protection to oil and bush. A tube, closed at the top by a brass screw-plug, leads through the cap of the driving-box dow the oil chamber, and admits of the chamber being replenished w at any time by means of an ordinary oil can. The great difficult lubricating with the old neck arrangement are thus entirely avoid

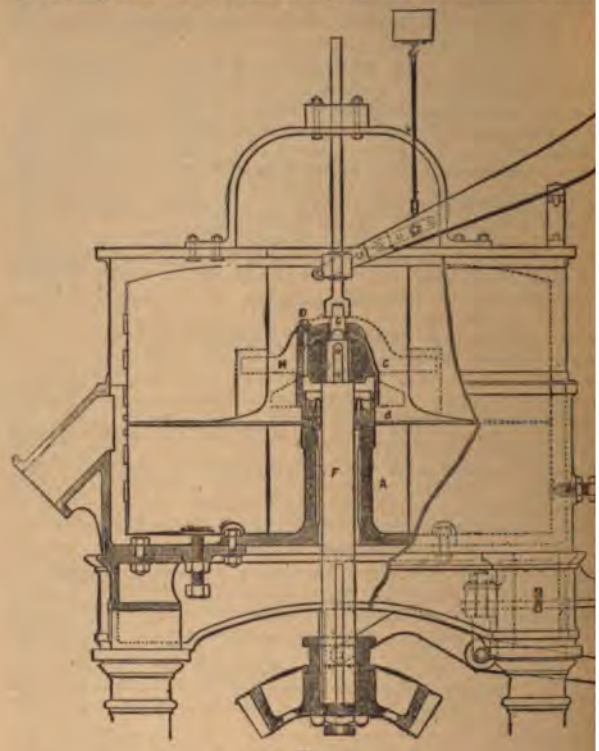

FIG. 1.

By comparing the following references with Fig. 1 the various mentioned above will easily be located.

(*a*) Centre piece, with brass bush; (*b*) oil reservoir; (*c*) dri box; (*d*) brass plug for oil chamber; (*e*) iron ring to hold sy wicks; (*f*) spindle; (*g*) driving bar, shown in section; (*h*) dr bar, shown in elevation by dotted lines.

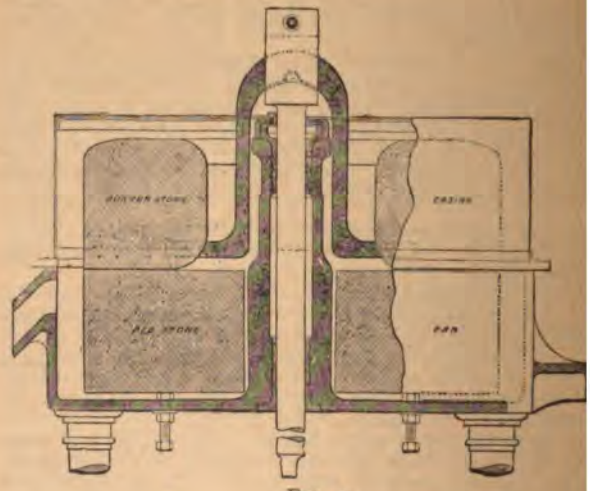

FIG. 2.

In Fig. 2 a modification suitable for wet grinding is illustrated these alterations in the mounting of the stones the output is g increased, less power is required for driving, the gearing do strip, there is no scattering through the neck, and no heating of b The mills run without any jerking, and require very little adjustn

CHANGE OF ADDRESS.—We are requested to state that the a of Samuel Pitt & Co., late of 45, Hope-street, Glasgow, i Samuel Pitt & Co, 95, Bath-street, Glasgow.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(*Before Mr. Justice Romer*).

UNAS NITRATE CO. *v.* THE LAGUNAS SYNDICATE (LIMITED) AND OTHERS.

rdship delivered his deferred judgment on Tuesday in the ion, which was instituted by the plaintiff company against the syndicate and its directors for the rescission of a contract June, 1894, for the purchase by the company from the syndi- price of £850,000. of certain nitrate grounds and works at Chili, and for damages.

al of the action occupied some 16 days in the hearing, which e during the latter end of January and the beginning of last.

stice Romer, after referring to the fact that fraud was not gainst any of the defendants, nor was ever intended to be ontinued :—I will first deal with the case of the defendant Undoubtedly by its directors the syndicate promoted and iduciary relation to the plaintiff company, and in its dealings ompany was bound to make a proper disclosure of all known acts and otherwise to exercise the good faith required from all cupying such a position. That the syndicate was selling its o the company at a profit and at a price fixed by its directors, the directors of the syndicate and of the company were the fairly and plainly stated in the prospectus. So far, therefore, n was based on the prospectus alone there was no ground of ainst the syndicate. The contention of the company was, that when the statements in the contract and prospectus are with what the company alleged was the true position of the time, there is a case for rescission and damages. Now ny has attacked the description in the contract of the property ontents of the prospectus on many points at an expenditure of money which has been, in my opinion, excessive even when d is paid to the importance and difficulties of the case. And sion I have come to is that the company has failed to estab- e me any legitimate ground of complaint, except in respect of rs—namely, the state of the water supply at the date of the and for some time after ; and the non-completion in some of one-half of the factory (or maquina, as it is called) until t time after the contract. The directors at the time not only but had reasonable grounds for believing, that the company iring the property at a favourable price. The property from was of necessity of a speculative kind and its value a matter The shareholders were told that the price was fixed by the The directors were experienced in nitrate grounds, and this nitrate ground had been visited by them. They had made uiries and investigations and trials of the ground, and on the it appears to me that they had reasonable and sufficient r the statements in the prospectus as to its estimated value, belief that the profits would be very large. The proper way ering the fairness of the price and the probability of large ming to the company is to look at the state of things t the date of purchase, and when that is done I think any fails in establishing any legitimate cause of complaint bove grounds. I am also of opinion that the evidence t the oficina or factory was, as represented by the syndicate, f manufacturing 300,000 quintals of nitrate per month. Nor on a fair reading of the prospectus or contract any repre- that an iodine house had been erected, or anything which luce intending shareholders to believe that that was so. The charges by the company was that the Lockett agreement ly onerous and not sufficiently disclosed, and that Colonel nterest thereunder should have been referred to. I am that

THERE WAS NO BAD FAITH

tter on the part of the syndicate or its directors, and, indeed, already pointed out, bad faith is not charged. Under the nces, I do not think the company is entitled to rely on the ing to the agreement as entitling it to relief. I have now to the two special matters in respect of which, in my opinion, e of the contract the property contracted to be sold did not ver to its description in the contract and prospectus. The hese related to the condition of the maquina. The work, was completed at the expense of the syndicate, and the delay ly unimportant, subject only to the question as to possible ofits between June 30, the date fixed for completion by the and September 2, when it was completed. The second lated to the water supply, which was undoubtedly a most matter. I give credit to the statement of the directors that they believed that at the date of the prospectus and contract the defect in the water supply was temporary only and would be speedily put right at the expense of the syndicate, and that they believed the statements as to the water supply in the prospectus and contract to be substantially true. But, of course, they were bound by those statements. In my opinion, it was not until December, 1894, that the defect could be considered to be finally and satisfactorily remedied. Dealing with the mass of evidence as best I can, the conclusion I come to is that since that date the water which the company was entitled to receive and the syndicate bound to supply is amply sufficient for the purposes of the maquina as described in the prospectus and contract, and to give to the company the full rights to which it is entitled under the contract. The result is that in my view the company has since December, 1894, been in the possession of property fully answering that described in the contract and prospectus, and that if the company be paid any loss that may have accrued to it by the delay in remedying the two defects as to the maquina and water supply it will for all substantial purposes be placed in the same position as if on June 30, 1894, the property had in every respect answered its description. The original shareholders knew of the true position of the directors, who were, in fact, named in the company's articles of association, and that powers were given to the directors so full as undoubtedly to authorise them to act as they did in giving time to the vendors to remedy defects in the property, and, this being so, if they acted in good faith, do not think their acts can be ignored by the company. The shareholders must have contemplated their acting on behalf of the company in reference to matters arising on the contract, notwithstanding their position as directors of the syndicate. But in considering the rights of the company when this action was tried, not only the facts to which I have already called attention, but also the events since December, 1895, when the company obtained a wholly independent board of directors, have to be considered At the last-mentioned date the contract clearly at common law could not have been rescinded, or treated as rescinded, merely by reason of the two original defects which I have dealt with So that when the company at the trial claimed rescission it was seeking the equitable jurisdiction of the Court. In administering equity the Court must consider all the material facts bearing on the question of rescission. For example, in the absence of fraud, Courts of equity have always paid considerable attention to the fact that the application is made after conveyance, and I think that this Court is bound to consider the fact that the nitrate on this property has been extensively worked by the company, not only while its directors were also directors of the syndicate, but also since it obtained an independent board, and, further, that the company has continued to work the nitrate since the disputes arose, and ever since action was brought right down to the present time, and that this has occurred without consulting the syndicate. Moreover, the working of the company since the disputes arose has been on a commercial scale for the dividend purposes of the company, and has not, as it appears to me, been limited to merely keeping the factory open as a going concern Now, I am not considering whether if a case of fraud had been made out, the Court could have found its way to prevent this working being a complete bar to rescission.

RESCISSION OF THE CONTRACT NOT EQUITABLE.

But I think the working ought to be taken into consideration together with the other facts to which I have called attention in dealing with the claim for rescission, and, looking at all the circumstances, I think it would not be fair or equitable to now decree rescission of the contract. I quite agree that if the company had satisfied me, on looking at all the circumstances, that it was entitled to ask for rescission, I should not have allowed any option to the syndicate of paying damages or making good its representations instead of rescission, and the authorities there cited, in all of which it is to be noted that nothing but rescission would have afforded complete or proper relief to the parties complaining. In the case now before me I think that justice will be done, and the company will obtain all the relief it is entitled to against the syndicate, by directing, upon the alternative claim of the company for

DAMAGES FOR BREACH OF CONTRACT,

an inquiry as to what loss or damage the company has sustained by reason of the maquina not being in complete working order on June 30th, 1894. That disposes of the action as against the syndicate, except as to the question of costs. With regard to the case put forward against the original directors of the company, it follows from what I have already said as to these directors not having been guilty of bad faith that the case against them must be substantially based on negligence. Nothing that they have done was beyond their powers as directors. The company said they were liable (1) for entering into such a contract without proper investigation, and (2) for carrying it out and for paying the purchase-moneys with notice of the defects in the property. Now directors are not liable when acting *intra vires* and in good faith for loss accruing to their company by their acts unless arising from what has been called "gross negligence" on their part. Exception has often been taken, and with good cause, to that phrase. But it

has been frequently used, and in other cases besides those concerning directors, and has its use, inasmuch as there is a practical difference between the degrees of negligence for which different classes of persons are responsible.

DIRECTORS' RESPONSIBILITIES.

A director is no doubt liable for acts done by him which he knows to be *ultra vires* the company and result in loss to the company, nor can he with impunity pay away without inquiry the company's moneys if it should subsequently turn out that they have been paid for a purpose to which they could not lawfully be applied, but there imprudence or want of judgment would not by itself make a director liable. With reference to the position of the directors in the present case as being also interested as directors of the syndicate, the observations of Lord Selborne in "Hirsche *v.* Sims" may be referred to. Now in the present case ought the directors to be held liable for breach of duty under the circumstances above stated because they entered into the contract and gave the syndicate time to remedy the defects, and because, notwithstanding the delay in the remedy and pending the remedy, they proceeded with the contract and obtained the conveyance and paid the purchase-money? I think not. Although they did not call the attention of the shareholders to the defects and delay, I see no sufficient evidence to justify me in coming to the conclusion that they did not truly and reasonably believe that what they were doing was for the interest of the company, though they may have been imprudent in some respects. Bearing in mind the knowledge of the property they had, I do not see why they were bound to make further investigations before sealing the contract on behalf of the company; and on this part of the case I may refer to "Overend, Gurney & Co. *v.* Sibb," and in considering the conduct of the directors the position of affairs at that time has to be regarded. The price of nitrate was then high and nitrate properties very valuable and much sought after, and if the company had had perfectly independent directors at that time I cannot help thinking they would have acted in the same way as regards giving time to the vendors to remedy defects and as regards not sending a circular to the shareholders to explain the precise position of affairs. Indeed, as to sending a circular or calling a meeting, looking at the matter from a business point of view, I think the shareholders would have been the very last persons to thank their board for doing anything of the kind. In result, as pointed out, the policy of the directors in giving time did result, though no doubt after a longer period than was originally contemplated, in the defects being cured, and, subject to the payment of loss accruing by the delay, no damage of any kind has been sustained by the company by reason of any defect in the property as contracted to be sold, or by reason of the action of its directors in adopting and carrying out the contract. Nor has damage accrued to the company because the directors did not before their retirement call upon the syndicate to make good the loss occasioned by the delay. The directors in no way released the syndicate from its liability for that loss, and the syndicate is well able now, as heretofore, to pay it.

NO NEGLIGENCE.

How it happened that no formal claim in respect of the loss was made by the directors during their term of office is, I think, clear. The delay extended gradually, and I do not think it ever occurred to the directors while they were in office that any substantial loss had occurred to the company by reason of it. Indeed, that idea does not seem to have occurred even to the present advisers of the company until recently. And if the oversight by the directors in making the claim be negligence on their part, still, seeing its nature, even if damage had ensued from that oversight (which is not the case so far as the facts are established before me), I do not think the negligence was of the kind for which directors can be held liable by action to their company. With regard to the payment of purchase money before the defects were cured, though that may have been imprudent, no harm has under the circumstances accrued to the company by reason of it, and I need not further allude to it. In the result the action, so far as it seeks relief against the directors or their representatives, must be dismissed.

His lordship made an especial order as to the costs, apportioning the liability according to the result of the issues.

The action therefore was dismissed, subject, however, to an inquiry as to what damages the company might have been put to by reason of the non-completion of the maquina until September 2, 1894, and of the defectiveness of the water supply up to December, 1894.

PURCHASES OF SULPHUR IN CANADA.—Every pound of sulphur now in Montreal has been bought up for shipment to the United States. The Collector of Customs will not interfere with these shipments, as declarations have been made that the sulphur is intended for paper manufacturers. One firm alone in Montreal has contracted to supply 10,000 tons, already secured in Europe, viâ Canada, owing to the danger of capture if consignments were shipped to United States ports.

Reports of Companies.

THE SALT UNION LIMITED.

An extraordinary general meeting of the company was held recently, at Winchester-house, to receive the report of the Shareholders' committee and to elect directors. The Hon. Lionel Ashley presided. Sir Edward Jenkinson said that he was convinced from inquiries he had made that the candidates put forward by Mr. M'Dowall's committee had no axe of their own to grind, but would, on the contrary, do the best they could in the shareholders' interests. He would, therefore, advise the meeting to avoid all dispute on that occasion and vote for the five nominees of Mr. M'Dowall who, he believed, was prepared to make a concession which would ensure to the minority some representation on the directorate. Mr. M'Dowall regretted that he had not met Sir Edward Jenkinson before that morning, because his committee were then pledged to their candidates, in whom they believed that they had gentlemen who had only the prosperity of the company at heart. He was authorized by them to say that, if elected, they would consider in a favourable spirit, if possible, any two candidates that might be nominated by the minority to fill the vacancies on the board which would occur at the end of June. He hoped that offer would prove acceptable and so put a stop to all further dissension among them. Sir Edward Jenkinson speaking on behalf of those for whom he held proxies, said they were perfectly satisfied with the assurance which Mr. M'Dowall had given. Mr. J. H. Cooke, in the absence through indisposition of Dr. M'Dougall, said their object from the first had been to obtain a fair and reasonable compromise, and after the meeting which had taken place that morning between Sir Edward Jenkinson and Mr. M'Dowall, they desired that the five candidates nominated by the committee should be elected unanimously. Mr. M'Dowall then proposed the following Liverpool gentlemen as

DIRECTORS:

Mr. W. H. Alexander, Mr. G. H. Cox (vice-president Liverpool Chamber of Commerce), Mr. J. Holt, Mr. A. Roxburgh, and Mr T. B. Royden. He observed that the shareholders must not expect any improvement in the position of the company during the current year, seeing that all the contracts had been made, and, he believed, at lower prices than in previous years. Mr. Douglas Coghill, M.P., seconded the resolution, which was carried unanimously.

RUSSIAN PETROLEUM AND LIQUID FUEL CO., LTD.

An extraordinary general meeting was held on Tuesday at Winchester House, E C, to consider a proposal for the division of the shares. The Hon. Evelyn Hubbard, M.P., who presided, said they had met for a specific purpose, and he thought they would not expect him to give them any detailed figures concerning the progress of their business. He might say, however, that it was in a most flourishing condition, and that any statement which had been held out to the shareholders by the board had so far been more than justified by results. Their production continued to be extremely satisfactory, and the prices they had obtained were distinctly in excess of the estimate given in the prospectus. The market, so far from falling off, had somewhat hardened for crude oil during the year. Some criticism had been made regarding the company's title to the property, and it had been stated that the gentleman who sold it to them, M. Tagieff, and those connected with him, had taken up an attitude hostile to the company. He (the chairman) made it his business, when he found Lord Stalbridge could not continue on the board, to go to Baku and make himself acquainted with the details of the business. He had an interview with M. Tagieff, who received him in a friendly spirit; and what that gentleman expressed then had been recently confirmed by letter, in which he said that any statement that he or any one associated with him had taken up a hostile attitude towards the company was absolutely false. M. Tagieff added that no one rejoiced more than he did at the very great success which had attended the exploitation of the business. In conclusion, the chairman moved a resolution to the effect that each of the £10. shares of the company, preference and ordinary, should be divided into ten shares of £1. each. Mr. W. H. Verner seconded the resolution. Replying to a shareholder, the chairman said that during the six months that had elapsed since the formation of the company they had produced 50,000,000 poods, as against 45,800,000 for the whole of the previous twelve months, and the average price per pood had been 8½ copecks, as compared with 7¾ copecks named in the prospectus. The resolution was agreed to unanimously.

SANTA RITA NITRATE CO. LTD.

The accounts show a gross profit of £8,127. 19s. 5d., out of which the debenture interest and general charges have been paid, leaving the sum of £3,996. 12s. 3d. to be carried to the balance-sheet. Adding to this the amount brought forward from the previous year, the total comes to £11,687. 11s. 9d. Provision has to be made for amortisation

ures amounting to £3,865. 8s. 10d., &c., leaving £7,822. 2s. ie credit of profit and loss account.

DIVIDEND POSTPONED.

eport states:—"The directors regret that, owing to the un- ry condition of the nitrate market, it would, in their opinion, visable to recommend the distribution of this profit at present; company having made profitable sales of the greater part of ction in the current year, the board will take into consider- advisability of an interim dividend later on. In order to e the grounds as much as possible and keep production down derate level, the Oficina Santa Rita has not been worked e past year, all the nitrate made by the company having been ured at Carolina. The period under review has been y disappointing, quotations, especially since the collapse of the ion, having steadily continued to decline. The prospects of a of the combination are scarcely encouraging, although it is felt that the present unsatisfactory state of affairs must y lead to an arrangement on equitable lines for the restriction tion, this being the only means whereby a recovery in prices nably be looked for."

THE OAKBANK OIL CO., LTD.

hirteenth annual general meeting of the shareholders of this will be held at No. 200, Buchanan-street, Glasgow, on Wed- 18th May, 1898, at twelve o'clock noon. The directors in ort for the year ending March 31st, 1898, state that the t the credit of profit and loss account, including the sum of 14s. 4d. brought forward from last year, is £5,638. 8s. 4d., e directors recommend should be disposed of as follows:— to be added to retorts renewal fund, and the balance of 8s. 4d. to be carried forward. There has been a further in the price of the company's products, the value of both d solid products having during the year touched the lowest erienced in the history of the trade. Sulphate of ammonia, ching the lowest point, gradually improved in value, and, recently weaker, is still considerably better than the average st year. The bench of retorts constructed under the licence to the company by Messrs. Bryson, Jones, and Fraser, as o in last year's report, was started on 1st January of this year, been working under normal conditions since the middle of The results of the working of these retorts have been entirely ry, and have led your directors to consider the advisability of ng at an early date these new and improved retorts for the use. The experience of the operations of the past year has the expressed belief of your directors that actual loss could verted by rigid economy and care; at the same time it has onstrated that, with the use of the newer and improved plant orting department, the company may be put in the position of substantial dividend even at the present low level of prices. cy of your directors will no doubt receive the cordial approval areholders. The directors who retire by rotation are Messrs. d Osborne. Both are eligible for re-election, and willing to cted. The auditor falls to be appointed at this meeting, and Wilson, C.A., offers himself for re-election.

DIVIDENDS.

TANDARD OIL COMPANY OF GALICIA.—The liquidator of the Oil Company of Galicia, Limited (Mr. H. T. McAuliffe), s a final dividend to the shareholders of 7d. per share, making, dividends already paid, a total distribution of £10. 0s. 7d. for 0. share.

ELLNER-PARTINGTON PAPER PULP COMPANY LIMITED.— st meeting of the directors of this Company it was decided to terim dividend for the half-year ended March 31, 1898, of six , free of income tax, payable May 18, 1898.

MANCHESTER SEWAGE PROSECUTION.—On Wednesday, at ty Police Court, before the Stipendiary (Mr. J. M. Yates, Q.C.), r magistrates, an application was made on behalf of the Man- orporation for a further extension of the time allowed by the the construction of their sewage works. The case for the ion was stated at considerable length. In reply, Mr. Sutton it roundly rated the Corporation with very apparent effect. rsday, the Stipendiary gave judgment based on the facts sewage of an ever-increasing population, now amounting 0, is being turned into an almost stationary body of water, d; that this has been going on to a greater or lesser degree for five years; and that the Corporation are no nearer a final t of the question than they were in 1893. If the Court were olong this period it would, he said, be stultifying itself and the ade by it by consent of the parties in 1896. He therefore ssly and unhesitatingly refused the application, dismissing it s.

THE SEWAGE COMMISSION.

THE Royal Commission on the Treatment and Disposal of Sewage has been constituted as follows:—Earl of Iddesleigh (chairman), Sir Richard Thorne-Thorne (Medical Officer of the Local Government Board), Lieut.-Col. Constantine Phipps Carey, Mr. Charles Philip Cotton, Professor Michael Foster (Cambridge), Lieut.-Col. Thomas Walter Harding, Mr. Thomas William Killick (Mersey and Irwell Joint Committee), Professor William Ramsay (University College, London), and Dr. James Burn Russell.

The following is the ref. rence:—To inquire and report: 1 (*a*) What method or methods of treating and disposing of sewage including any liquid from any factory or manufacturing process) may properly be adopted, consistently with due regard for the requirements of the existing law for the protection of the public health and for the economical and efficient discharge of the duties of local authorities; and (*b*) if more than one method may be so adopted, by what rules in relation to the nature or volume of sewage or the population to be served or other varying circumstances or requirements should the particular method of treatment and disposal to be adopted be determined; and (2) to make any recommendations which may be deemed desirable with reference to the treatment and disposal of sewage. Mr. Frederick James Willis is the secretary.

SOCIETY OF CHEMICAL INDUSTRY.

MANCHESTER SECTION.

THE last meeting of the session was held on Friday, 6th inst., in the rooms of the Chemical Club, Mr. George E. Davis being in the chair.

In the preliminary half-hour set apart for such matters, Mr. George H. Hurst exhibited two hot-air ovens of an improved design. One was constructed all of copper and resembled the ordinary laboratory hot-air ovens, in which there are two defects. One is that the bottom soon becomes corroded or burnt away by the flame of the bunsen burner continually impinging on it. The other is that the drying of substances in these ovens is slow owing to want of ventilation. The new oven was designed to overcome these defects. The flame of the Bunsen does not play direct on the bottom of the oven but on a loose plate screwed to it, which plate can be replaced with a new one in a few minutes when required. Moreover, the bottom is perforated, and the Bunsen burns in a funnel-shaped extension, so that the hot air passing upwards is carried right through the oven, thus increasing the rapidity of the drying process. The second oven was a novelty, inasmuch as it was made of tiles, forming an oven which is much cleaner in work than the ordinary copper ovens, without any increase in the cost. Mr. Morris, of Levinstein's, Ltd., also read a note on the "Vapours from Heated Vitriol." He pointed out how white vapours passed the condenser in the rectification of sulphuric acid by surface evaporation, when air was admitted. In a closed retort there were no vapours, but when moist, or even dry air was admitted, the fumes came off. Carbon dioxide had the same effect as air. The results of a number of experiments were detailed.

The fact is unfortunate, as vitriol may be concentrated to 95% at as low a temperature as 200° C., and even lower, only the formation of these vapours renders the process impracticable. The composition of the fumes was not entered into as it is the intention of the author to bring the matter up next session. It is almost impossible to condense these vapours, and the author gave instances of how he had endeavoured to arrest them by passage through streams of water, sulphuric acid of various strengths, caustic soda, carbonate of soda, lime water, and ammonia without avail. The suggestion that the rate of passage was too rapid did not obtain, as, if the vapours were passed slowly, they might as well be sent through empty chambers and condensed; which method arrested them if enough time were allowed. Even a 10% solution of barium chloride failed to stop the escape of these white fumes, which if allowed to escape were liable to cause many complaints from residents in the neighbourhood of the works. Aspirating the gases, and exposing them to a jet of steam, reduced the acidity of the exit gases to a minimum, but not the whiteness. In the course of these aspiration tests it was found that when simply aspirated through a condensing coil, but at a high velocity, the acidity was higher than when the gases were aspirated slowly. The vapours had been successfully disposed of for two months by passing them into the first chamber of a vitriol plant, but this was eventually abandoned because the moist acid vapours had eaten away the fan.

The Chairman said the subject was most interesting, and as it was one which had more or less occupied the attention of every chemist who had had anything to do with the rectification of vitriol, he hoped that the perusal of Mr. Morris's note when it appeared in the Society's Journal would lead to an instructive discussion next session.

The analytical notes read by Dr. Liebmann dealt with the difficulties

of testing aniline oil. A scheme of analysis was outlined, the notes being of an interesting and practical character. Messrs. Marchlewski and Radcliffe followed with notes on the composition of Indican, in which they detailed experiments which further elucidated the original researches of Dr. Schunck, made some 40 years ago. Dr. Schunck, who was the father and godfather of this product, and other members took part in a short discussion.

Parliamentary Jottings.

IMPORTED MILK FROM CHERBOURG.

In the House of Commons on Monday, an Hon. Member on behalf of Mr. Heywood Johnstone (Sussex, Horsham) asked the President of the Local Government Board whether his attention had been called to the recent report of Mr. Consul Gurney on the trade and agriculture of Cherbourg and district, and particularly to the paragraphs which referred to the large and increasing export of fresh milk to this country, and to the statement that such milk was prepared for export by the admixture of some unknown antiseptic, and that a certificate from a medical authority to the effect that the antiseptic was in itself innocuous would certainly be welcome and reassuring; and if he would take steps to obtain such a certificate and also a guarantee (as suggested by Mr. Consul Gurney) that no milk imported into this country had ever come from dairies where any of the inmates of the farm were suffering from infectious disease, and generally to ensure that imported fresh milk was subject to the same sanitary safeguards and restrictions as milk produced in this country.

Mr. Chaplin (Lincolnshire, Sleaford).—I am aware of the report referred to and the statement it contains. I entirely agree with my hon. friend in what I understand to be the object of his question—namely, that every precaution should be taken that milk imported into this country should be innocuous to public health. As to a certificate, I have already taken steps for the chemical and bacteriological analysis of the milk imported from abroad; but with regard to the other guarantees that my hon. friend desires—namely, that the milk imported from Cherbourg and the district has not come from dairies where any of the inmates of the farm are suffering from infectious disease, and is subject to the same sanitary safeguards and restrictions as milk produced in this country—that is a matter which, at present, is beyond my control. My hon. friend, however, is mistaken as to the "large and increasing" character of the trade from Cherbourg. The figures for the present year are as follows:—January, 20,500 gallons; February, 28,500 gallons; March, 14,000 gallons; April, 528 gallons, of the value of £12.

Trade Notes.

Brunner, Mond's Dividend.—On Wednesday afternoon, at Winnington Old Hall, Northwich, Sir John Brunner, M.P., presided over a meeting of the directors of Messrs. Brunner, Mond, and Co., Ltd., when it was unanimously resolved to declare a dividend on the ordinary shares of 25 per cent. and 7 per cent. on preference shares. A balance of £82,212. was carried forward.

Borax as a Medicine.—At a meeting of the Borax Co., Ltd., held in London on Wednesday, Mr. Robottom, one of the shareholders, in seconding a resolution for reconstructing the company said that if people knew the value of borax in the cure of disease and for other purposes he was sure its consumption would largely increase. When he started in Birmingham some years ago selling borax in penny packets people laughed at him. He sold the business to a company for a small sum, and now there was in Birmingham a factory which employed 940 hands. He was sure if the value of the product was generally known to the public half the pain in the world would be prevented.

Compulsory Licences Under the Patent Act.—The Chemical Sectional Committee of the Manchester Chamber of Commerce has prepared a pamphlet giving full particulars of a recent test case which had, at the invitation of the Board of Trade been pressed forward to a decision on the part of the referee appointed by the Board. Although the decision has not yet been given, the experience gained by the prosecution of this petition shows that section 22 is in practice quite useless for the purpose of preventing the monopoly of British markets by a foreign patentee who declines to work his patent in this country or to grant licences The petition occupied eleven days in hearing, and cost the petitioner over £1,800. It is evident to the Committee therefore, that some more expeditious and less costly method of enforcing the rights of British manufacturers must be provided by the Legislature. The facts of the case as represented in the evidence are fully brought out in the pamphlet, and its publication was authorised by the Board.

The Resin Market.—During the past month the United States market declined because of the war scare, as it was assumed that, while production would go on unchanged, the home demand would fall off. Under these circumstances it was thought that stocks would accumulate at the various ports, and that exports to Europe would be rendered difficult, or might even be stopped altogether. During the last week of the month, however, shippers altered their opinions, and as a consequence it has been difficult to get any offers of supplies at all. The steamer freight rates are so high and available tonnage is so scarce that steamers cannot be made use of, and, on account of the war, the owners of sailing vessels are indisposed to send them to American ports to load. The outlook as regards supplies, therefore, seems very bad, and tempting prices must be paid to the shippers in order to obtain any. It is considered not improbable that, should the war last, the highest prices for resin recorded since the American Civil War will be quoted within the next few months. In the London market prices have advanced strongly, and supplies "on the spot" have been rapidly secured by buyers. In the Liverpool market also a large amount of business in resin "on the spot" and also "for arrival" has been done at continually hardening prices.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols have been moving well, and the heavy stocks are being relieved. Prices have improved somewhat in consequence, 90's now being quoted 1s. to 1s. 1d., and 50/90's 1s. 1d. to 1s. 2d. Carbolic acids are weaker, crude now standing at 2s. bare. There is practically no change in naphthas, solvent being quiet. Anthracene stands at Convention prices of 4¾d. for 30% A and 4d. for B. Pitch steadier and dearer, at 21s. to 21s. 6d, f.o.b. East Coast.

Sulphate of ammonia is improving, and the market is firm. The demand is on the move for the better to all accounts, particularly in Scotland. Closing prompt quotations are:—Beckton, £9. 5s.; London outside makes, £8. 17s. 6d.; Liverpool, £8. 17s. 6d. to £8. 18s. 9d.; Hull, £8. 16s. 3d. to £8. 17s. 6d.; and Leith, £8. 17s. 6d.

MISCELLANEOUS CHEMICAL MARKET.

There is a fair amount of business doing in the alkali trade, and on the whole a rather improved tone, though nominal quotations remain pretty much the same, and are, generally, at a low level. Ammonia alkali is the exception, being in good demand and price maintained firm at £4. 2s. 6d. bags, f.o.r. Soda crystals and bicarbonate are also in good request and firm. Caustic soda is unaltered, both for prompt and forward delivery, and current quotations are, f.o.b. Liverpool:—77%, £8. 5s.; 74%, £8.; 70%, £7. 2s. 6d.; 60%, £6. 2s. 6d. nett, per ton. For bleaching powder the demand is still light, but improving; prices are unchanged. Chlorates are flat. Potash 3¼d., and Soda 3¾d. per lb. Saltcake is scarce and dearer at 22s. 6d. bulk, free on rails. Sulphur advanced to £4 15s. per ton. For vitriol and muriatic acids the general demand is good. Sulphate of copper is again easier at £16. 5s. f.o.b. Sulphate of iron is in good request and prices are higher. Yellow prussiate of potash scarce at 6½d. per lb. Soda 5¼d. per lb. Cyanide firm at 1s. 3d. per lb Potash, caustic and carbonate, are steady at recent quotations. White powdered arsenic is moving slowly at £18. to £18. 5d. f.o.r., Garston. Carbolic acids are quiet. For aniline oil and salt, the quotaions are unchanged. Trade in ammonia salts is dull. Brown acetate of lime firm. Acetate of soda dull at £11. 10s. c.i.f. Acetic acids unaltered. Oxalic acid rather lower at 3¼d. General demand for chemicals in the textile trade are still reported unsatisfactory.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron firm: Scotch warrants closed at 47s.; Middlesbro', 40s. 9½d cash; and hematite, 51s. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £51. 1s. 3d. to £51. 6s. 3d. cash, and £51. 8s. 9d. to £51. 13s. 9d. three months. Tin steady Straits closed at £65. 15s. to £66. 5s. cash, and £66 8s. 9d. to £66. 18s. 9d. three months; Australian, £66. 10s.; English ingots, £68. 10s. to £68. 15s. Lead easier: Spanish, £14. to £14. 2s. 6d. English, £14. 10s. 0d.; Silesian spelter, ordinary, £19 2s. 6d to £19. 5s. 0d Nickel, 1s. 2½d. Antimony, £35 10s. Quicksilver: First hands, £7. 10s. 0d.; second hands, £7. 9s 6d. *Coppershares* steady: Cape, $4\frac{9}{16}$ to $5\frac{1}{16}$; Copiapo, $2\frac{3}{16}$ to $2\frac{5}{16}$; Libiola, 7¼ to 8¼; Mason and Barry, 3¼ to 4; Rio Tinto, $26\frac{3}{16}$ to $26\frac{5}{16}$; Tharsis, 6¾ to 7.

GLASGOW, Tuesday.—Market strong, and a large business. Scotch done at 46s. 8d. to 46s 10½d. cash; also at 46s 11d., 46. 10½d., and 47s. 1½d one month; buyers, 46s. 10½d cash; sellers, 46s. 11d. Cleveland done at 40s. 9½d. to 40s. 10d. one month; buyers, 40s. 6½d cash; sellers, 40s. 7d. Cumberland hematite done at 51s. 2d., 51s. 3½d., and 51s 2½d. one month; buyers, 50s. 11d. cash; sellers, 51s. Middlesbrough hematite idle.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

OILS.—Palm oil is very firm, and has been moving freely at £21. 7s. 6d. for £21. 12s. 6d. for Lagos; Congo £20. and soft oils £20. 15s. to £21. Olive has advanced, chiefly through the change in the Spanish currency. On spot £31. to £31. 10s. per ton is now asked. Linseed maintains its position at 18s. to 18s.6d. per cwt. for Liverpool makes in export casks. There is a firmer tone in cottonseed, but so far prices remain at 16s 9d. to 17s. 3d. for Liverpool refined. Castor oil is steady and the market firm. First pressure French is moving satisfactorily on spot for 3¼d. per lb, and the same applies to good seconds Calcutta at 3¼d to 3 5/16d. per lb. Tallow is in good demand, and is selling well, although prices are against buyers. Resin presents no change either in price or position. Spirits of turpentine firm at 27s. per cwt., and a moderate business doing. Petroleum the same:—5¾d. to 7d. per gallon for American, and 4⅞d. to 5d. for Russian.

CAKES.—The market for American Western linseed on the spot remains quite steady, but the high prices demanded and the moderate quantity available have restricted business, the quotation being still £7. 2s. 6d. to £7. 10s.; for Liverpool makes there is again a very fair inquiry experienced from consumers at £8. to £8. 15s. per ton, according to brand. Holders of good to choice brands of American decorticated cottonseed continue steady in their requirements, and a fair trade has been transacted at £6. to £6. 15s., according to quality. Liverpool makes, both of decorticated and undecorticated, also met a very fair inquiry from consumers, values of the former being still given at £6. 15s. to £7. 5s., whilst for the latter 5s. more is now wanted, the quotation at the close being given at £4. 12s. 6d. to £5. 5s. per ton, both according to brand. There is a firm tone in the market for spot parcels of Egyptian, stock here being in second hands, and sellers from store still ask £4 10s. per ton.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9.s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—Very little of importance has arisen during the week to disturb the situation in the oil trade here. All the excitement appears to surround the transactions in wheat, where much money has been made by the merchants and millers here. The imports into Hull during the year as against the same time a year ago have been:—Wheat, 808,411 qrs. against 836,250 qrs.; flour, 60,060 cwts., against 148,059 cwts.; linseed, 113,754 qrs., against 230,430 qrs.; rapeseed, 25,675 qrs. against 38,819 qrs.; cottonseed, 97,914 tons, against 88,022 tons; cloverseed, 41,792 cwts., against 24,793 cwts; oilcake, 7,221 tons, against 3,759 tons; olive oil, 2,120 tuns, against 2,057 tuns. Linseed oil is in improving value, and quoted 16s. spot, 16s. 1½d. month; May/Aug., 16s. 9d. paid, naked. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil better, 15s. spot, naked; and same quotation up to August. Filtered oil £1. extra; casks £1., and ordinary barrels £1. 10s. per ton extra. Olive oil from £32. per tun. Resin is firmer, and quoted from 5s. 1½d. spot, according to grade. Turpentine, 26s. 6d. to 27s. Mineral oils from America are quoted at 5s. advance, owing to higher freights. Arachide nut oil from £27. per ton. Oleines unchanged at full rates. Olive oil soaps little offering on spot. Cod oils, £16. 10s. to £19. per ton. Wool grease, £7. 10s. to £9. Castor oil firm at previous quotations.

CAKES.—The demand all round for feeding stuffs is quiet, with quotations as follows:—Linseed cakes, quiet, 95% pure, £8. 2s. 6d. to £8. 5s. Oilcakes (linseed), £7. to £7. 2s. 6d. Russians, £7. 7s. 6d. to £7. 12s. 6d Cotton cakes dull, best makes £4. 10s. to £4. 12s. 6d.; seconds, £4. 7s. 6d. to £4. 10s. Decorticated, £6. 2s. 6d. Rape cakes unchanged.

PAINTS.—Makers continue very busy. White and red leads unchanged. Ready mixed paints in tins. £24 per ton. Ordinary colours in oil from £10. per ton. Black varnish is very much in demand, £5. to £5. 10s. per ton. Disinfecting powder, 5% carbolic, £3; 10% per cent., £3. 10s.; 15%, £4. per ton. Sanitary fluid from 10d. per gallon.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

Over the market there is a general feeling of greater quietness, and the recent signs of excitement have been succeeded by an impression that the industry is not to be very seriously affected by the course of passing events. Both copper and lead products are reported as easier, and sulphate of copper is on a slightly lower quotation with some holders. In the other general chemicals there are no price changes to record. In sulphate of ammonia an unmistakable improvement has taken place, and within a week the prompt price has mounted from £8. 11s. 3d. to £8. 15s. It is reported that the demand has sensibly quickened, while at the same time stocks are for the most part within moderate compass. Nitrate of soda likewise is firmer. In mineral oils, naphthas, and solid paraffins, of Scotch production, there are no price changes; but all the lines are pretty firm at the old figures, considering that it is rather the off season for these on the market.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 15s. od. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to £5. 0s. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 19s.6d.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 7½d.; sulphate of ammonia, £8. 11s. 3d; prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33 nett, any port; sulphate of copper, £16. 10s. od. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 18,805 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

The demand for chemicals shows a little improvement, but there is no change in prices. Soda crystals are £2. 12s. 6d. per ton, gross weight, locally. Caustic, 70%, £7. 5s, to £7. 10s. per ton; 76/77% £8. 10s per ton. Sulphur scarce at £4. 15s. per ton.

Bleaching powder, softs, £5. 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s per ton, nett; recovered sulphur, 2 cwt. bags, £4. 15s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 4d. per lb., less 6%; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 6d. per ton, f.o b. Tees.

COALS.—Trade continues steady with a good demand for steam, gas, and bunker coals. Coke is also very firm, with an increasing demand for both export and local consumption. To-day's prices:—Best Northumbrian steam, 14s. to 15s. per ton; second qualities, 13s. to 14s. per ton; small steam, 5s. od. to 6s. per ton; bunker coals, 9s. to 10s. per ton; household coals, 10s. to 11s. per ton; coke, 18s. 6d. to 20s. per ton.

New Companies.

Ceramo Syndicate, Ltd.—CAPITAL £60,000. in £5. shares This company has been formed to adopt an agreement with H. T. Cheswright, and to carry on the business of artificial or ceramic stone manufacturers, glass blowers, makers and fusers, cement manufacturers, lime burners, etc. The subscribers to the memorandum of association are: Comte de Cibeins, 3, Rue Jarente, Lyons, rentier; J. H. Colls, 5, Coleman-street, E.C., builder; L. Vindry, 1, Rue du Plat, Lyons, barrister; J. Bilbie, 80, Queen Victoria-street, E.C., engineer; H. T. Cheswright, 32, Quai de Vaisis, Lyons, engineer; H. R. Simpson, 19, Alleyn Park, W. Dulwich, gentleman; J. Graham, 24, Coleman-street, E.C., solicitor.

Gent & Co., Ltd.—CAPITAL £1,000. in £10. shares. This company has been formed to acquire and carry on the business of manufacturers of and dealers in colours, varnish, paints, etc., carried on as W. A. Gent & Co., at Manchester. Registered without articles of assignment. Registered office, 4, Echo-street, Granby Row, Manchester.

Liffey Printing Ink and Chemical Co., Ltd.—Capital £2,500 in £1. shares. This company has been formed to acquire and carry on the business of printing ink, varnish, and lubricant manufacturers, carried on at Fish-street, North Wall, Dublin, as The Liffey Oil and Printing Ink Works. Registered by Gush & Co., 3, Finsbury Circus, E.C.

Walter Jones, Ltd—Capital £10,000. in £10. shares. This company has been formed to acquire and carry on the business of a tanner, currier, leather dresser, hide and skin merchant, etc., carried on by W. Jones, at Charles street, Wrexham, and to adopt a certain agreement. The subscribers to the memorandum of association are:—W. Jones, Belgrave-road, Wrexham, tanner; Mrs. M. L. Jones, Belgrave-road, Wrexham; Mrs. H. J. Shuter, Ashton-in-Makerfield, Newton-le-Willows; Mrs E. E. M. Jones, Belgrave-road, Wrexham; F. M. Jones, St. John's, Wrexham, leather manufacturer; A. S. Jones, Pendower, Wrexham, leather manufacturer; E. Hughes, Glyndwr, Wrexham, accountant. Registered office, Charles-street, Wrexham.

West India Rubber Plantation Synd., Ltd.—Capital £10,000. in £1. shares. This company has been formed to acquire any lands buildings, or other property situate in Trinidad or elsewhere in the West Indies, and to carry on the business of growers and producers of caoutchouc, india-rubber, gutta-percha, and similar substances. The subscribers to the memorandum of association are:—E. W. Howard, 9, Egerton-place, S.W., gentleman; Viscount Morpeth, 41, Devonshire Place, W.; E. W. Birt, The Hermitage, Snaresbrook, Essex, solicitor; D. White, 9, Guilford Place, W., gentleman; J. Spain, 49, Underhill-road, Lordship Lane, S E., accountant; G. E. Stevenson, 58, Thornlaw-road W. Norwood, accountant; T. W. Brown, 28, Matlock-street, Stepney, clerk. Registered office, Wren Buildings, 50, St. Thomas's-street, Bermondsey, S E.

John Tullis & Son, Ltd.—Capital £300,000. in £10. shares. This company has been formed to carry on and develop in all or any of its branches the businesses hitherto carried on by John Tullis & Son and the Tullibody Tanning Co, and to carry on the business of tanners leather dressers, and merchants. The subscribers are:—J. Tullis, 78-80, John-street, Bridgeton, Glasgow, manufacturer; D. Tullis, 78-80, John-street, Bridgeton, Glasgow, manufacturer; J. T. Tullis, 78-80, John-street, Bridgeton, Glasgow, manufacturer; A. Crawford, John-street, Bridgeton, Glasgow, cashier; J. K. Tullis, John-street, Bridgeton, Glasgow, manufacturer; J. S. Tullis, John-street, Bridgeton, Glasgow, manufacturer; T. T. Tullis, John-street, Bridgeton, Glasgow, manufacturer.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending April 30th.

Acetone—
France, £250 — E. J. Catlin

Alum—
Holland, 156 pks. — Ohlenschlager Brs.

Alumina Sulphate—
Germany, £70 — H. Wallace & Co.

Ammonium Chloride—
Holland, £67 — H. Lorenz

Ammonium Nitrate—
Holland, 65 pks. — S. E. Rly. Co.

Ammonium Oxalate—
Holland, £45 — R. W. Greeff & Co.

Antimony Ore—
Canada, 45 t. — L. & I. D. Jt. Co.

Asbestos—
Italy, £48 — H Johnson & Sons
" 15 — London Asbestos Co.
Germany, 15 — Craven & Co

Barium Chloride—
Germany, 44 pks. — Petri Brs.

Barytes—
Germany, 75 pks. — W. Harrison & Co.
Belgium, 163 — J. L. Lyon & Co.
" 89 — W. Harrison & Co.
Holland, 137 — "

Bleaching Powder—
Germany, £22 — J. M. Steel & Co.

Bone Meal—
E. Indies, 100 t. — A. Hunter & Co.
" 300 — H. Lambert

Bromide of Iron—
Belgium, 25 pks. — A. & M. Zimmermann

Caoutchouc—
P. E. Africa, 26 c. — L. & I. D. Jt. Co.
Chile, 3 — "
E. Indies, 70 — "
" 68 — Ralli Brs.
France, 42 — Girard Brs. & Co.
Sydney, 25 — McIlwraith, McEacharn & Co.
Peru, 13 — F. Huth & Co.
Spain, 404 — L. & I. D. Jt. Co.

Castor Oil—
France, 11 brls. — J. Greig
Italy, 10 cs. — Major & Field
France, 65 pks. — F. Boehm
Italy, 20 cs. — Stebbing & Co.
Germany, 1 — T. Christy & Co.
Italy, 10 — B. G. Lennon & Co., Ld

Caustic Potash—
Belgium, 80 c. — A. J. Luke & Co.
" 45 — T. Ronaldson & Co.
" 8 pks. — Wilkins, Campbell & Co.

Caustic Soda—
Holland, 102 c. — R. Waters

Chemicals (*otherwise undescribed*)
Holland, £11 — H. Lorenz
" 590 — T. H. Lee
Portugal, 25 — J. Silva & Co.
Germany, 16 — R. Wolff & Co.
Holland 1,240 — Phillipps & Graves
" 28 — Typke & King
Belgium, 151 — T. Palmer
Germany, 19 — Butler's Wf., Ld.
Belgium, 31 — John Cockerill Line
" 4 — T. H. Lee
Germany, 866 — L. & I. D. Jt. Co.
" 4 — Phillipps & Graves
" 569 — A. & M. Zimmermann

Chlorine—
Germany, £36 — A. & M. Zimmermann

Citrate of Lime—
Italy 42 pks. — B. Jacob & Sons
" 161 — Thames S. T. & L. Co.

Cream of Tartar—
France, 10 pks. — C. Atkins & Nisbet
" 4 — G. S. N. Co.
" 5 — B. & F. Wf. Co.
" 2 — L. & N. W. Rly. Co.
Spain, 5 — F. C. Devon & Co.

Dyestuffs—

Argols
Italy, 1,948 pks. — B. Jacob & Sons
" 245 — Thames S. T. & L. Co., & Co.

Cochineal
Canaries, 20 pks. — Hendry & Martin
" 30 — W. M. Smith & Sons
" 62 — Sperling & Williams
" 52 — L. & I. D. Jt. Co.
" 30 — Swanston & Co.

Cutch
Rangoon, 150 pks. — A. Howden & Co.
Ceylon, 150 — L. & I. D. Jt Co.

Divi Divi
E. Indies, 145 pks. — Culverwell, Brooks & Co.

Extracts
France, 111 pks. — L. J. Levinstein & Sons
" 64 — B. & F. Wf. Co.
Holland, 22 — J. Norrenberg & Co.
Belgium, 25 — J. Greig
Austria, 68 — Hoare, Wilson & Co.

Indigo
Bengal, 2 chts. — L. & I. D. Jt. Co.
Belgium, 3 cs. — John Cockerill Line
Madras, 77 chts. — Parsons & Keith
" 65 — W. J. & H. Thompson
" 12 — Walker, Munsie & Co.
" 70 — L. & I. D. Jt. Co.
" 10 — J. Karples & Co.

Logwood
B. Hond'as, 126 t. — A. Everingham & Co.
B. W. I., 14 — S. Dobree & Sons

Shumac
Italy, 200 pks. — J. Kitchin, Ld.
" 2,000 — Beresford & Co.
" 200 — A. Stator & Co.
" 500 — J. W. Cook & Co., Ld.
" 25 — W. France & Co., Ld.

Tanners' Bark
N Zealand, 6 t. — L. & I. D. Jt Co.
Cape, 39 — Flack, Chandler & Co.
Belgium, 35 — F. A. Hughes
Cape, 10 — Boutcher, Mortimore & Co
" 17 — A. & W. Nesbitt

Valonia
A. Turkey, 8 t. — A. Laming & Co.
" 100 — Boutcher, Mortimore & Co.

Farina—
Germany, 8 pks. — Butler's Wf., Ld.
Belgium, 2 — T. H. Lee
Holland, 50 — J. Knill & Co.

Glucose—
Germany, 75 pks. 700 c. — Bennett S. S. Co., Ld.
U. States, 950 5,478 — Wilson & Furness Leyland Line
" 1,000 1,000 — T. M. Duche & Sons
Holland, 40 40 — J. Barber & Co.
France, 250 250 — W. E. Cole
" 247 247 — Trier, Meyer & Co.
U. States, 601 3,839 — L. & Til. Ltge Co.
" 1,000 1,000 — Pearce, Pelly & Co.
" 750 750 — E. Thompson & Co.
" 1,050 1,305 — Barrett Tagant & Co.
" 750 750 — Parker Wellesley & Co.
" 1,000 1,000 — Beresford & Co.
France, 247 247 — Trier, Meyer & Co.
U. States, 3,399 13,248 — R. G. Hall & Co.
Texas, 650 3,900 — "

Glue—
Canada, £60 — W. Wingate & Co.
U. States, 323 — Armour & Co.
Belgium, 725 — J. Barber & Co.
France, 10 — B. & F. Wf. Co.
" 56 — J. Harrison
Germany, 112 — L. & I. D. Jt. Co.
Italy, 140 — Sander & Knott
Austria, 150 — M. D. Co.
U. States, 191 — L. & I. D. Jt. Co.
Germany, 40 — M. H. Voss
Italy, 30 — P. Brown
France, 12 — Bennett S. S. Co.
Germany, 56 — Butler's Wf., Ld.
" 27 — Steinhoff, Sons & Co.
Holland, 300 — Capes & Self
" 45 — A. G. Robinson & Co.
France, 22 — Mory & Co.
Germany, 52 — Phillipps & Graves
" 600 — Deering & Robottom
Italy, 145 — Greenberg & Sons

Infusorial Earth—
Germany, £250 — A. Haacke & Co.

Kainit—
Germany, 100 t. — F. W. Berk & Co., Ld.

Lamp Black—
U. States, 50 pks. — J. Melvin

Litharge—
Germany, 6 pks. — J. Barber & Co

Lithopone—
Holland, 20 pks. — Taylor Brs.

Manure—
Germany, 26 t. — E. Groschke

Methyl Alcohol—
Germany, 2 cks. — Hammond & Co.
" 30 dms. — W. Izard

Mica—
E. Indies, 240 pks. — E. Davis & Co.
" 1,865 — W. M. Smith & Sons
Germany, £8 — Craven & Co.
U. States, 270 — G. Barker

Molasses—
U. States, 500 brls. 3,212 c. — J. Forsey
" 50 296 — Barratt, Tagant, & Co.
Germany, 972 4,967 — J. R. Francis & Co.

Ochre—
Holland, 16 pks. — Phillipps & Graves
Germany, 2 — H. Keller & Co.
U. States, 112 — Taylor Brs.

Phosphate of Lime—
Holland, 270 t. — Anglo-Contl. Guano Works
France, 200 — W. E. Cole
" 180 — A. Hunter & Co.

Phosphate Rock—
Belgium, 235 t. — D. de Pass & Co.

Pitch—
Holland, 150 cks. — Fellows, Morton, & Co.

Plumbago—
Ceylon, 76 brls. — Marshall & French
" 24 — French & Pluckett
" 161 — Morgan Crucible Co.
Germany, 60 cs. — Butler's Wf., Ld.
" 3 cks. — H. J. Davies & Sons
Ceylon, 40 brls. — L. & I. D. Jt. Co.
" 106 — R. G. Hall & Co.
Germany, 147 cs. — E. & T. Fisk
" 21 cks. — B. Galloway
E. Indies, 32 brls. — A. B. Curtis & Co.
Ceylon, 125 — Doulton & Co.
" 40 bls. — W. Cawthorn & Son
" 28 brls. — J. Thredder, Son, & Co.

Potassium Bicarbonate—
Holland, £30 — A. & M. Zimmermann

Potassium Carbonate—
Germany, 100 c. — Petri Brs.
" 200 — A. J. Luke & Co.
" 201 — Gas Light & Coke Co.

Potassium Chloride—
Germany, £508 — Bessler, Waechter, & Co.
Belgium, 100 — J. Harrison
Germany, 450 pks. — F. W. Berk & Co., Ld.

Potassium Permanganate—
Holland, 25 pks. — R. W. Greeff & Co.

Potassium Prussiate—
Holland, £28 — Blagden, Waugh, & Co.

Pumice Stone—
Italy, 2 t. — O'Hara & Hair
" 12 — G. W. Largen

Pyrites—
Spain, 800 t. — Anderson, Anderson, & Co.

Quicksilver—
Italy, 100 flsks. — H. Bath & Son

Rosin—
France, 25 cks. Phillipps & Graves
Salicylic Acid—
Germany, 5 pks. Butler's Wf., Ld.
Saltpetre—
E. Indies, 3,036 bgs. Lucas & Spencer's Wf.
Germany, 100 cks. J. Hall & Son
E. Indies, 343 bgs. A. B. Curtis & Co
Germany, 25 cks L. & I. D. Jt Co.
" 200 kgs. P. Hecker & Co.
Sodium Acetate—
Holland, 21 pks. H. Lorenz
Starch—
U. States, 300 pks. R. G. Hall & Co.
Holland, 1,390 Little & Johnston
Belgium, 466 F. Claydon & Co.
" 208 Leach & Co.
" 300 J. Barber & Co.
" 90 Taylor Brs.
Germany, 380 Horne & Co.
France, 20 W. E. Cole
U. States, 400 R. Bennett & Co.
" 600 Beck & Pollitzer
Holland, 170 Phillipps & Graves
Belgium, 680 T. H. Lee
" 240 J. Harrison
Germany, 150 Seaward Brs., Ld.
Stearine—
U. States, 5 hds. Beresford & Co.
Sulphur—
Italy, 27 t. J. Kitchin, Ltd.
" 8 G. Boor & Co.
Spain, 100 J. Forster
Italy, 21 J. Greig
Talc—
E. Indies, £42 A. E. Piggott
France, 30 pks. Blackwell & Co.
Tartaric Acid—
Holland, 4 pks. Kirkpatrick, Barr, & Co.
Belgium, 13 J. Harrison
" 13 F. C. Devon & Co.
" 3 "
Tartars—
Italy, 19 pks. Fellows, Morton, & Co.
" 53 B. Jacob & Sons
Tin Ashes—
Holland, 12 t. Little & Johnston
Ultramarine—
Belgium, 15 pks. W. Harrison & Co.
Germany, 46 Steinhoff, Sons, & Co.
Holland, 2 Phillipps & Graves
U. States, 30 Steinhoff, Sons, & Co.
Holland, 5 W. Harrison & Co.
Varnish—
Germany, 41 pks. Butler's Wf., Ld.
" 6 Phillipps & Graves
Belgium, 1 W. A. Wilson
Verdigris—
France, £30 H. Lorenz
White Lead—
Belgium, 53 pks. J. L. Lyon & Co.
" 45 T. & W. Farmiloe
Holland, 98 "
Germany, 59 F. G. Clifford
Holland, 20 Perkins & Homer
" 50 Randall Brs.
Wood Pulp—
Sweden, 272 pks. C. S. Lovell
Belgium, 293 W. G. Taylor & Co., Ld.
Sweden, 320 "
Norway, 24 W. D. Cork
Holland, 76 Henderson, Craig, & Co.
Canada, 2,357 "
" 1,087 J. Dards
Germany, 1,000 E. J. & W. Goldsmith
Sweden, 801 Alsing & Co., Ld
Norway, 24 Tegner, Price, & Co.
Sweden, 14 S. E. Rly. Co.
Norway, 200 Becker & Co.
Germany, 94 L. & I. D. Jt. Co.
Norway, 1,600 Christophersen, Andrews, & Co.
Belgium, 3,266 P. Heydemann
Sweden, 428 M. Dk. Co.
Norway, 7 "
Zinc Oxide—
Germany, 55 pks. M. Ashby, Ltd.
Holland, 60 "
Germany, 500 Soundy & Sons
U. States, 100 M. Ashby, Ltd.

LIVERPOOL.

Week ending April 28th.

Albumen—
Hamburg, 1 cs.
Aluminium—
New York, 500 bxs. T. Ashbury
Bone Meal—
Bombay, 7,468 bgs.
Caoutchouc—
Hamburg, 36 crts.
Cottonseed Oil—
New York, 110 brls.
Cream of Tartar—
Barcelona, 5 cks. Sachse & Klemm
Bordeaux, 28
Tarragona, 1 ppe.
Dried Blood—
Zarate, 730 bgs. J. Nelson & Sons, Ld.
Dyestuffs—
Annatto
Rotterdam, 1 bskt.
Argols
Patras, 10 bls. M. D. Frangopulet & Co.
Oporto, 3 cks.
Indigo
Trieste, 17 cs.
Madder
Rotterdam, 2 cks.
Myrabolams
Bombay, 7,963 bgs.
Saffron
Valencia, 2 cs.
Shumac
Barcelona, 100 sks.
Farina—
Stettin, 6,700 bgs. Browne, Geveke & Co.
Glue—
Rouen, 20 cks. R. J. Francis & Co.
" 81 120 cs. Co-op. W'sale Society, Ld.
Hamburg, 12 57 bgs.
Rotterdam, 80
Fiume, 100 Iblee & Sankey
" 200 bls.
Lamp Black—
Philadelphia, 140 bgs.
Litharge—
Rotterdam, 15 cks.
Lithopone—
Rotterdam, 20 cks.
Mercuric Oxide—
Hamburg, 4 cks.
Mineral White—
Fiume, 100 bgs.
Naphthaline—
Gothenburg, 1 bx. Bradbury & Hirsch
Ochre—
Rouen, 82 cks. R. J. Francis & Co.
" 57 Co-op. W'sale Society, Ld.
Oxalic Acid—
Hamburg, 4 kgs.
Paraffin Scale—
New York, 916 brls. Anglo-Am. Oil Co., Ld.
Baltimore, 100
Phosphate—
Ghent, 800 t.
Potash—
Dunkirk, 20 dms.
Rouen, 37 cks. Co-op W'sale Society, Ld.
Hamburg, 90
Rotterdam, 70
Potassium Carbonate—
Stettin, 19 cks. Sachse & Klemm
Pyrites—
Huelva, 4,030 t. Matheson & Co.
Rosin—
Amsterdam, 13 brls.
Saltpetre—
Hamburg, 17 cks. 125 kgs
Soap—
New York, 8 bxs. S. & G. Watts & Co.
Philadelphia, 1,000 63 crts.
Zante, 100
N'port News, 1,066 brls.
Soapstone—
Genoa, 100 bgs. 10 cs.
Sodium Silicate—
Hamburg, 100 cs. 2 brls.
Starch—
New York, 400 bgs. Glucose Sugar Rfg Co.
" 100 L. Sutro
Parnahyba, 1 H. Evans & Co.
Baltimore, 700
Rotterdam, 10 cs.
N'port News, 1,000 sks. Colby & Co.
" 330
Stearine—
Rouen, 13 bgs. Co-op. W'sale Society, Ld.
Tallow—
New York, 100 tcs. Eastman's, Ld.
" 33 brls. J. W. De Silva & Co.
" 500 hds.
Boston, 440 31 674 tcs.
Zarate, 260 pps. J. Nelson & Sons, Ld.
Boston, U.S.A., 374 tcs.
Portland, M., 500 brls.
Philadelphia, 111 100
Tar—
Boston, U.S.A., 10 brls.
Treacle—
New York, 40 brls.
Bordeaux, 8 pks.
Philadelphia, 25
Varnish—
New York, 8 brls. W. A. Warren
" 100 trs. Eastman's, Ld.
Rotterdam 3 cks.
Wolfram Metal—
Hamburg, 1 cs.
Wood Pulp—
New York, 511 bdls. Christie & Co.
Rotterdam, 162 bls. 19 pks.
Boston, U.S.A. 1,331 rolls Thin & Sinclair
" 10 cs. J. Spicer & Sons
Portland, M., 448 bls.
Boston, 1,801 rolls Thin & Sinclair
Gothenburg, 29 pks. G. Shenkenwold
" 100 bls. F. Doherty
" 170 bdls.
Oporto, 1,000 brls.
Zinc Ashes—
Philadelphia, 41 brls.
Zinc Oxide—
New York, 50 brls.
Zinc White—
Hamburg, 80 cks.
Rotterdam, 10

MANCHESTER.

Week ending April 30th.

Acetate of Lime—
Rouen, 154 bgs.
Acetic Acid—
Rotterdam, 34 btls. Wilson, Sons, & Co., Ld.
100 blns.
Alizarine—
Rotterdam, 11 cks Wilson, Sons, & Co., Ld.
Barytes—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld
100 bgs.
Antwerp, 9 cks.
Caoutchouc—
Treport, 8 cks.
Chemicals (*otherwise undescribed*)
Rotterdam, 1 ck. Wilson, Sons, & Co., Ld.
Colours—
Rouen, 3 cks.
Rotterdam, 12 8 cs 179 pks. 3 bxs. 35 brls. Wilson, Sons, & Co., Ld.
Antwerp, 5 cks.
Copper Sulphate—
Rouen, 3 brls.
Farina—
Rotterdam, 500 bgs. N. N. Jackson
" 1,500 Wilson, Sons, & Co., Ld.
Hamburg, 42
Glucose—
New York, 50 brls.
Glue—
Rouen, 3 cks. 20 bls
Rotterdam, 50 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 5 bls.
Treport, 20
Lead Acetate—
Hamburg, 34 cks.
Rouen, 42
Limestone—
Antwerp, 3 crts.
Litharge—
Rotterdam, 26 cs. Wilson, Sons, & Co. Ld.
Paraffin Scale—
New York, 464 brls.
Phosphate—
Antwerp, 18 cks.
Phosphorus—
New York, 5 cs.
Potassium Carbonate—
Stettin, 37 cks. W. H. Stott & Co.
Potassium Chlorate—
Gothenburg, 70 kgs.
Potassium Prussiate—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.
Pyrites—
Huelva, 1,677 t.
Soda—
Rotterdam, 8 cks.
Sodium Nitrate—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.
Starch—
Rotterdam, 195 cs. Wilson, Sons, & Co., Ld.
Antwerp, 250
New York, 1,600 bgs.
Stearine—
Antwerp, 75 bgs.
Sulphuric Acid—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.
Tin Chloride—
Antwerp, 8 cks.
Ultramarine—
Rotterdam, 20 cs. Wilson, Sons, & Co., Ld.
Wood Pulp—
Christiania, 10 cs. 125 bls. W. H. Ingram
Hamburg, 230 bdls.
New York, 143 bls.
Zinc Ashes—
Antwerp, 16 cks.
Zinc Oxide—
Antwerp, 125 cks. 20 brls.
New York, 100

GLASGOW.

Week ending May 5th.

Acetate of Lime—
Philadelphia, 433 bgs.
Acetic Acid—
Rotterdam, 7 cks. J. Rankine & Son
Ammonium Nitrate—
Rotterdam, 66 cks. J. Rankine & Son
Barium Sulphate—
Antwerp, 1,156 bgs. 17 cks.
Barytes—
Rotterdam, 69 pks. J. Rankine & Son
Bleaching Powder—
Rotterdam, 23 cks. J. Rankine & Son
Castor Oil—
Fiume, 10 cs.
Antwerp, 111 cks.
Chemicals (*otherwise undescribed*)
Gothenburg, 6 cks. 30 kgs.
Colours—
Antwerp, 2 cks.
Rotterdam, 275 pks. J. Rankine
10 cks 4 bxs. & Son
Cottonseed Oil—
New York, 100 bls.
Cream of Tartar—
Barcelona, 26 cks.
Tarragona, 1
Bordeaux, 20
Dyestuffs—
Alizarine
Rotterdam, 88 brls. J. Rankine & Son
Aniline
Rotterdam, 23 cks. J. Rankine
7 bxs. 37 brls. & Son
Aniline Colours
Amsterdam, 1 ck. J. Rankine & Son
Hamburg, 15 4 cs.
Madder
Amsterdam, 2 cks. J. Rankine & Son

French Chalk—
Fiume, 50 bgs.
Glucose—
New York, 450 brls.
Baltimore, 600
Glue—
Rotterdam, 40 bgs. J. Rankine & Son
Hamburg, 20
Fiume, 4 cks. 400 bls.
Nantes, 4
Lead Acetate—
Hamburg, 4 cks.
Litharge—
Rotterdam, 1 ck. J. Rankine & Son
Magnesite—
Fiume, 107 cs. 5 brls.
Manganese Chloride—
Rotterdam 6 cks. J. Rankine & Son
Paraffin Wax—
Baltimore, 117 brls.
Phosphate—
Bona, 1,000 t.
Potash—
Hamburg, 23 cks. 40 dms.
Pumice Stone—
Bordeaux, 16 cs. 5 bgs.
Rosin—
New York, 204 brls.
Salicylic Acid—
Hamburg, 1 cs.
Soap—
New York, 25 cs.
Newport News, 334 brls.
Fiume, 132
Philadelphia, 550 bxs 51 crts.
Sodium Sulphate—
Rotterdam, 1 brl. J. Rankine & Son
Starch—
New York, 800 sks.
Rotterdam, 15 cs. J. Rankine & Son
Antwerp, 76
Talc—
New York, 4 cs.
Treacle—
Philadelphia, 100 brls. Waddell & Bryson
" 500
Ultramarine—
Rotterdam, 4 cks. J. Rankine & Son
3 cs.
Varnish—
Antwerp, 20 cks.
Waste Salt—
Hamburg, 261 cks. 100 bgs.
White Lead—
Rotterdam, 20 cks. J. Rankine & Son
48 pks.
Wood Pulp—
Oporto, 250 bls.
Gothenburg, 176
Halifax, 180
Christiania, 1,869 20 cs.
Zinc Oxide—
New York, 100 brls.
Zinc Sulphate—
Rotterdam, 5 bls. J. Rankine & Son
Zinc White—
Rotterdam, 26 pks. J. Rankine & Son

HULL.

Week ending April 30th.

Antimony Salts—
Bremen, 5 cks. Veltmann & Co.
Arsenic—
Hamburg, 15 brls. Wilson, Sons, & Co., Ld.
Barytes—
Rotterdam, 42 cks. W. & C. L. Ringrose
Bremen, 12 Veltmann & Co.
Antwerp, 70 Bailey & Leetham, Ld.
Bleaching Powder—
Antwerp, 5 cks. Wilson, Sons, & Co., Ld.
Bone Meal—
Karachi, 500 bgs.
Riga, 500
Caoutchouc—
Rotterdam, 1 ble. Hutchinson & Son
Chemicals (*otherwise undescribed*)
Gothenburg, 4 cks. Wilson, Sons, & Co., Ld.
Dunkirk, 17 "
Antwerp, 32 pks. "
Chromium Fluoride—
Rotterdam, 5 cks. Hutchinson & Son
Cod Oil—
Aalesund, 119 brls. Wilson, Sons, & Co., Ld.
Bergen, 72 "
Colours—
Hamburg, 4 pks. Wilson, Sons, & Co., Ld.
Rotterdam, 2 W. & C. L.
2 bxs. 16 cks. Ringrose
Ghent, 18 Wilson, Sons, & Co., Ld.
New York, 60 brls.
Rotterdam, { 8, 16 pks., 4 cks. } Hutchinson & Son
Amsterdam, 1 W. & C. L. Ringrose
Hamburg, 6 cs. G. Malcolm & Son
Bremen, 1
Antwerp, { 45 cks., 80 brls., 22 pks. } Wilson, Sons, & Co., Ld.
Cottonseed Oil—
New York, 100 brls. Wilson, Sons, & Co., Ld.
Cream of Tartar—
Rotterdam, 6 cks. Hutchinson & Son
Dyestuffs—
Alizarine
Rotterdam, 10 cks. W. & C. L.
4 brls. Ringrose
" 2 Hutchinson & Son
Logwood
Hamburg, 30 bgs. Wilson, Sons, & Co., Ld.
Farina—
Stettin, 25 bgs. Wilson, Sons, & Co., Ld.
Harlingen, 100 W. & C. L. Ringrose
" 300 Hutchinson & Son
Libau, 104
Hamburg, 500
Glucose—
Boston, { 450 brls., 1,000 bgs. }
Rotterdam, 40 W. & C. L. Ringrose
Glue—
Boston, 10 brls.
Stettin, 1 ck. Wilson, Sons, & Co., Ld.
Rouen, 16 Rawson & Robinson
Dunkirk, 22 pks. Wilson, Sons, & Co., Ld.
Guano—
Hamburg, 1 bg. Wilson, Sons, & Co., Ld.
Lead Acetate—
Hamburg, 7 cks. Wilson, Sons, & Co., Ld.
Lithopone—
Rotterdam, 44 cks. W. & C. L. Ringrose
Mineral White—
Bordeaux, 20 bgs. Rawson & Robinson
Minium—
Rotterdam, 16 cks. Hutchinson & Son
Ochre—
Rouen, 32 cks. Rawson & Robinson
Phosphate—
Ghent, 2,040 bgs. Wilson, Sons, & Co., Ld.
Dunkirk, 1,530
Potash—
Dunkirk, 48 pks. Wilson, Sons, & Co., Ld.
Saltpetre—
Hamburg, 12 bgs. Wilson, Sons, & Co., Ld.
" 5 cks. Lofthouse & Saltmer
Soap—
Boston, 15 cs.
Hamburg, 1 Bailey & Leetham, Ld.
" 1 Wilson, Sons, & Co., Ld.
Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
" 100 Wilson, Sons, & Co., Ld.
Starch—
Ghent, 260 cs. Wilson, Sons, & Co., Ld.
Amsterdam, 40 bxs. W. & C. L. Ringrose
Bremen, 2,477 cs. Veltmann & Co.
Antwerp, 496 Wilson, Sons, & Co., Ld.
Stearine—
Aalesund, 11 brls. Wilson, Sons, & Co., Ld.
Tallow—
Boston, 634 pks. Wilson, Sons, & Co., Ld.
640 tcs.
Hamburg, 45 "
New York, 50 "
Tar—
Konigsberg, 50 brls.
Tartar—
Bordeaux, 10 cks. Rawson & Robinson
Tartaric Acid—
Rotterdam, 10 cks. Hutchinson & Son
Treacle—
Boston, 788 brls. Wilson, Sons, & Co., Ld.
New York, 678 "
Turpentine—
Libau, 12 cks. Wilson, Sons, & Co., Ld.
Ultramarine—
Bremen, 9 cks.
Rotterdam, 1 cs. Hutchinson & Son
Hamburg, 2 cks. Bailey & Leetham, Ld.
Waste Salt—
Hamburg, 50 bgs. Wilson, Sons, & Co., Ld.
" 485 Furley & Co.
White Lead—
Antwerp, 5 cks. Bailey & Leetham, Ld.
Wood Pulp—
Bergen, 20 bls. Wilson, Sons, & Co., Ld.
Gothenburg, 231 "
" 35 Aire & Calder N. Co.
Hango, 242 J. Good & Sons
Zinc White—
Rotterdam, 90 cks. Hutchinson & Son

TYNE.

Week ending April 30th.

Alum Earth—
Hamburg, 40 cks. Tyne S. S. Co.
Gelatine—
Hamburg, 270 cs.
Phosphate Rock—
Bona, 700 t.
Saltpetre—
Harburg, 200 t. The Dahmen Explosives Co.
Soap—
Rotterdam, 2 cs. Tyne S. S. Co.
Waste Salt—
Hamburg, 200 t.
Wood Pulp—
Christiania, 410 bls.

GOOLE.

Week ending April 27th.

Alizarine—
Rotterdam, 77 cks. 1 cs.
Alkali—
Calais, 4 cks.
Antimony—
Boulogne, 3 cks.
Barytes—
Rotterdam, 50 bgs.
Dyestuffs (*otherwise undescribed*)
Boulogne, 13 cks. 77 pks.
Rotterdam, 338 53 cs.
Farina—
Delfszyhl, 813 bgs.
Hamburg, 100
Glue—
Rotterdam, 100 bgs.
Plumbago—
Boulogne, 4 cs.
Potash—
Calais, 21 dms.
Dunkirk, 20
Saltpetre—
Hamburg, 2 cks. 8 brls.
Rotterdam, 100 bgs.
Soap—
Boulogne, 3 cks.
Hamburg, 1 cs.
Starch—
Ghent, 78 cs.
Rotterdam, 10
Tartar—
Rotterdam, 23 cks.
Varnish—
Amsterdam, 3 cs.
Boulogne, 1
Zinc Oxide—
Rotterdam, 8 cks.

GRIMSBY.

Week ending April 30th.

Coal Tar Dyes—
Antwerp, 1 cs. 20 pks.
Hamburg, 20
Rotterdam, 1
Colours—
Antwerp, 16 pks.
Hamburg, 9 cks. 6 cs. 17
Rotterdam, 1 2
Dyestuffs (*otherwise undescribed*)
Dieppe, 5 cks.
Farina—
Hamburg, 300 bgs.
Glue—
Antwerp, 3 cks.
Iron Ore—
Ergasteria, 2,450 t.
Waste Salt—
Hamburg, 1,000 bgs.
Wood Pulp—
Malmo, 30 bls.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 4th.

Acids—
Durban, 8 dms. £26
Shanghai, 8 cs. 10
Pt. Elizabeth, 19 41
Alkali—
Lyttelton, 1 t. 5 c. £31
New York, 1 13
Fremantle, 2 10
Ammonia—
Durban, 4 pks. £12
Calcutta, 8 cs. 12
Beira, 10 15
Cape Town, 2 c. 12
Cologne, 20 cyldrs. 60
Ammonia (Liquid)—
Cologne, 41 dms. £329
Ammonium Carbonate—
Paris, 1 t.
St. Petersburg, 20 4 c.
Ammonium Chloride—
Samsoun, 12 c.
Melbourne, 2

Ammonium Sulphate—
St. Vincent, 20 t. £180
Barbadoes, 52 1 c. 538
St. Lucia, 15 135
Valencia, 102 1,020
Havre, 120 1,200
Hamburg, 50 450

Arsenic—
Amsterdam, 6 cks. £42
Napier, 1 t. 8 c. 32

Bleaching Powder—
Pt. Elizabeth, 1 t. £13

Borax—
Antwerp, 10 t. £145
Dusseldorf, 19 c. 16
Brisbane, 5 14
Cologne, 3 8 58

Carbolic Acid—
Napier, 100 dms. £41
Penang, 30 11
Philadelphia, 73 cks. 317

Carbonic Acid Gas—
Rotterdam, 4 tubes £20
Bermuda, 22 cs. 110
Amsterdam, 40 cyldrs. 20

Caustic Soda—
Durban, 8 t. 2 c. £88
Wellington, 13 30
Pt. Elizabeth, 98 2 42
Perth 4 5
Auckland, 10 74
Hong Kong, 7 5

Chemicals *(otherwise undescribed)*
Lisbon, 4 cs. £20
B. Ayres, 30 60
Zanzibar, 2 12
Melbourne, 2 cks. 5 17
Rotterdam, 3 kgs. 18
Toronto, 1 t. 8 c. 107
Hiogo, 30 cs. 81
Havre, 1 ck. 11
Bermuda, 1 3 31
Calcutta, 4 34
Fremantle, 41 pks. 97
Cape Town, { 21 / 6 c. 55
Singapore, 2 18
St. Petersburg, 6 kgs. 32
Antwerp, 10 58
Kurrachee, 3 13
Colombo, 10 13 cs. 419
Sydney, 1 35 222
Hamburg, 30 dms. 13 195
Brussels, 6 25 241
Auckland, 43 pks 69
Adelaide, 10 53 116

Citric Acid—
Amsterdam, 2 kgs. £12
Cape Town, 1 ck. 7
Copenhagen, 5 c. 28
Genoa, 10 56
Bombay, 1 t. 117
Sydney, 3 17
E. London, 1 ck. 7
Brussels, 10 57
Colombo, 1 6
Singapore, 1 cs. 12
St. Petersburg, 1 t. 15 201

Coal Products—
Aniline Colours
Calcutta, 1 cs. £8
Aniline Oil
New York, 21 dms. £575
Anthracene
Dusseldorf, 209 cks. £677
Benzine
Melbourne, 20 dms. £13
Auckland, 20 15
Benzol
New York, 10 dms. £104
Creosote
Hong Kong, 1 cs. £6
Gibraltar, 20 brls. 20
New York, 550 cks. 428
Naphthaline
New York, 221 cks. 15 cs. £218
Paris, 158 215 bgs. 361
Hamburg, 15 138
Pitch
Bombay, 30 brls. £14
Aviles, 1,150 t. 1,449
Antwerp, 1,350 1,350
Haiphong, 1,976 cks. 300
Shanghai, 40 40
Calcutta, 100 43
Palermo, 2 6
New York, 295 113
Hong Kong, 1,243 371
Tar
E. London, 150 dms. £9
Stettin, 100 brls. 60
St. Petersburg, 8.0 450
Trinidad, { 10 / 10 hf.-brls. 10 pks. 26
Pt. Elizabeth, 1,190 dms. 88
Adelaide, 100 19
Danzig, 108 42
Bombay, 51 runlets 37
Tar Salts
New York, 2 cks. £80

Copper Sulphate—
Bordeaux, 57 t. 10 c. £963
Brussels, 5 84
Paris, 45 765
Antwerp, 35 2 560

Corrosive Sublimate—
Bombay, 5 c. £56

Cream of Tartar—
Wellington, 6 c. £26
Auckland, 1 t. 1 82
Melbourne, 2 10 163
Gisborne, 3 12
Sydney, 1 77
Delagoa Bay, 6 30
Halifax, 4 cks. 98

Disinfectants—
Bombay, 3 cs. £11
Madras, 4 26
Lyttelton, 5 t. 35
Durban, 60 cks. 10 40
Antigua, 3 21
Hamburg, 108 12 dms. 515
Swatow, 15 c. 11
Melbourne, 12 cs. 31
Calcutta, 4 19
New York, 13 t. 2 c. 250
Kurrachee, 1 11 17
Shanghai, { 1 / 7 cks. 6 58

Manure—
Trinidad, 340 t £3,350
Bombay, 6 c. 15
Madras, 21 12 87
Grenada, 7 28
Ghent, 2 10
Dunedin, 430 1,476
St. Lucia, 185 1,235
Colombo, 25 175
Hong Kong, 10 7

Oxalic Acid—
Melbourne, 1 t. £33

Phosphorus—
Oporto, 3 cs. £25

Potash—
Malta, 1 c. £10
Stettin, 1 t. 12 64
Hamburg, 6 18 278

Potassium Bichromate—
Barcelona, 21 cks. £245

Potassium Chlorate—
E. London, 1 t. £33

Potassium Cyanide—
Durban, 2 t. £214
Townsville, 3 329
Delagoa Bay, 10 14 c. 850
Fremantle, 10 14 1,210
New York, 420 cs. 2,038

Salt Cake—
Brussels, 150 t. £255

Saltpetre—
Fremantle, 1 t. £20
Pt. Elizabeth, 9 c. 10
Bahia, 4 3 85
Rio de Janeiro, 2 9 52
Hamburg, 1 18
Oporto, 2 12 45
Brisbane, 10 11
Melbourne, 1 12 13
Montreal, 6 3 120

Sheep Dip—
Pt. Elizabeth, 11 t. 3 c. £275
Durban, 6 1 175
San Francisco, 13 1 387
Calcutta, 500 dms. 29
Stettin, 40 cs. 70
Montreal, 5 cks. 10
Melbourne, 905 pks. 700

Soda—
Sulina, 3 t. 5 c. £13
Brisbane, 9 9
Antwerp, 4 18 11

Sodium Bicarbonate—
Calcutta, 1 t. £7
Bermuda, 2 4 13
Pt. Elizabeth, 1 12 11
Paris, 5 7 95
Auckland, 5 32

Sodium Bichromate—
Barcelona, 12 cks. £85

Sodium Hyposulphite—
Adelaide, 18 c. £5

Sulphur—
Durban, 4 t. 16 c. £33
Pt. Elizabeth, 25 cks. 11
Lisbon, 100 brls. 69
Cape Town, 750 400 kgs. 810

Sulphuric Acid—
Gibraltar, 10 cs. £14
Singapore, 9 10
Penang, 7 20 dms. 33
Calcutta, 15 c. 10
E. London, 25 16

Superphosphates—
Madras, 25 t. £93

Tartaric Acid—
Hiogo, 2 t. £228
Delagoa Bay, 2 c. 14

LIVERPOOL.

Week ending May 4th.

Acetic Acid—
Lisbon, 18 c. £8

Alkali—
Para, 15 t. 6 c. 2 q. £61
Constantinople, 1 10 3 6
E. London, 4 19 3 20
Varna, 6 2 2 25
Piræus, 9 18 40
St. John's, Nfld., 1 4
Boston, 20 12 3 108

Alum—
Rangoon, 2 t. 19 c. 1 q. £17
M. Video, 22 7 3 64
Cape Town, 1 18 1 10
Lisbon, 5 25
Alexandretta, 5 5 26
Montreal, 11 9 3 58
Halifax, 2 17 2 14
Smyrna, 1 10 7
Algoa Bay, 10 3
Piræus, 9 2 41
San Francisco, 14 70
Galatz, 15 8 78

Ammonia (Liquid)—
Para 2 c. £13

Ammonium Carbonate—
Hamburg, 19 c. £33
Melbourne, 4 9
B. Ayres, 1 t. 14 47
Genoa, 10 14

Ammonium Chloride—
Galatz, 1 t 5 c. £41
San Francisco, 2 15 46
Copenhagen, 5 5
Rouen, 1 34

Ammonium Nitrate—
Bilbao, 6 c. £13

Ammonium Sulphate—
Palermo, 8 t. 10 c. £75
New York, 50 10 445
Malaga, 51 450
Cullera, 80 7 682
Cartagena, 15 1 2 q. 151
Leghorn, 11 8 1 114
Valencia, 91 13 2 650

Anhydrous Ammonia—
B. Ayres, 2 c. 3 q. £11

Bleaching Powder—
Bombay, 40 dms.
Boston, 639 cks.
Calcutta, 104
Delagoa Bay, 40
Genoa, 88
Alexandria, 20 brls.
Baltimore, 157
B. Ayres, 10 bxs.
Fremantle, 110 kgs.
Georgetown, 29
Leghorn, 31
Maranham, 6
Naples, 20
Newport News, 266
New York, 87 25
Philadelphia, 206
Piræus, 9
Rouen, 9
St. John's, N.B., 5
Seville, 20
Venice, 10
Vigo, 20 bls.

Boracic Acid—
Melbourne, 3 t. 16 c. 1 q. £83
Valparaiso, 3 4
Montreal, 5 15 3 157
Charlotte Town, 2 6 3 63
M. Video, 1 4 30

Borax—
Coquimbo, 5 c. £5
Palermo, 6 1 q. 4
Melbourne, 1 t. 15
Toronto, 12 10 188
Valparaiso, 5 4
Constantinople, 4 3
Rotterdam, 6 1 105
Callao, 2 29
M. Video, 2 31
Montreal, 27 5 2 409
Hamburg, 3 13 2 60
Genoa, 2 50 brls. 107
B. Ayres, 1 3 c. 80
Para, 1 ck. 5
Ibrail, 5 2 75
Amsterdam, 1 15

Calcium Chloride—
Kurrachee, 3 t. 3 c. £7
Montreal, 10 6 23
Genoa, 2 2 5
Bari, 10 1 23
Fremantle, 20 3 46

Carbolic Acid—
Vancouver, B.C., 4 c. £14
Rotterdam, 11 t. 5 216
Hamburg, 4 3 q. 267
New York, 14 640
Rouen, 12 16 2 492
C. C. Castle, 1 cs. 15 dms. 11

Caustic Potash—
San Francisco, 2 t. 4 c. £60
Rotterdam, 4 19 156

Caustic Soda—
Alexandria, 165 dms.
Algoa Bay, 40 cs.
Amsterdam, 67
Ancona, 30
Antwerp, 17
Bahia, 40
Barcelona, 130 pks.
Bari, 32
B. Ayres, 100
Cardinal, 40
Cartagena, N.G., 50
Calcutta, 28
Coquimbo, 10
Constantinople, 10
Fiume, 41
Fremantle, 30
Galatz, 11
Genoa, 235
Gutujewsky, 100
Haifa, 17
Hamburg, 442
Hiogo, 311
La Guayra, 30
Leghorn, 123
Marseilles, 40
Mazatlan, 200
M. Video, 325
Montreal, 500 26 cks.
Nagasaki, 253
Nantes, 31
Naples, 29
New York, 200 100 brls.
Oporto, 54
Philadelphia, 100
Port Darwin, 18
Rio de Janeiro, 24
Rosario, 40
Rouen, 10
San Sebastian, 15
Santander, 20
Santos, 106
Savanilla, 24
Seville, 458
Sfax, 10
Sydney, 48
Tampico, 120
Tarragona, 30
Titusville 50
Toronto, 50
Trieste, 34
Vera Cruz, 85
Vigo, 10
Winnipeg, 35

Chemicals *(otherwise undescribed)*
Galatz, 12 c. £19
Calcutta, 3 t. 15 120
Montreal, 1 10 45
Lisbon, 8
Toronto, 1 18 55
New York, 7 19 282
B Ayres, 3 6 90
Marseilles, 2 3
Philadelphia, 13 7 398

China Clay—
Boston, { 509 t. / 160 cks. 10 c.
Newport News, 800
Philadelphia, 400
Rio de Janeiro, 32
Sydney, 24

Citric Acid—
Cadiz, 4 c. £23
Rio de Janeiro, 5 2 q. 27

Coal Products—
Aniline
Manila, 1 cs.
Aniline Colours
Bombay, 2 cs.
Boston, 14 pks.
New York, 51 cks.

Aniline Oil
Barcelona, 20 brls.
Tampico, 2 cks.

Aniline Salts
Alexandria, 17 brls.
Aleppo, 4 cks.
Athens, 10
Barcelona, 10
Boston, 35 cs.
Newport News, 18
New York, 16 24

Creosote Oil
Bordeaux, 272 cks.
Boston, 50 brls.

Pitch
Maranham, 20 brls.
Rotterdam, 25

Tar
Hamburg, 383 brls.
Kustendjie, 10
Lagos, 17
Philadelphia, 150
St. John's, Nf'd., 25 pks.

Copper Sulphate—

Leghorn,	24 t.	1 c.	3 q.	£187
Nantes,	74	16		1,183
Genoa,	73	14		1,168
Brindisi,	37	18		592
Venice,	55	2	2	880
Bari,	56	19	2	882
Ancona,	96	16	3	1,513
Smyrna,	5	11		91
Oporto,	35	14		560
Rouen,	57	13		910
Fiume,	33	4		537
Piræus,		10		8
Stettin,		15		11
Ghent,	2	19		50
Calcutta,	2	10		40
Sydney,	1			16
La Pallice,	9	16	3	150
Charente,	79	18	1	1,288
Antwerp,	10		3	155
Rotterdam,	40	3		630
Naples,	141	4	3	2,227
Lisbon,	49	18		765
Bordeaux,	363	11	3	5,935
Marseilles,	5			79
Trieste,	100	5	3	1,584

Corrosive Sublimate—
Alexandretta, 1 c. £12

Disinfectants—
Rosario, 15 c. £7
Bombay, 3 t. 2 q. 14
Montreal, 4 17 2 24

Gypsum—
Melbourne, 6 t. £18

Lead Nitrate—
Montreal, 8 t. £180

Magnesia—
Constantinople, 1 bl.
New York, 10 cs.
Tampico, 2

Magnesium Sulphate—
Montreal, 65 brls.
Rio de Janeiro, 200 kgs.

Manure—
Havre, 15 t 1 c. 1 q. £60
Bordeaux, 10 12 2 35

Muriatic Acid—
Pernambuco, 9 c. £5

Oxalic Acid—
Boston, 5 t. 18 c. £16 3

Paint—
Antwerp, 27 dms.
Beyrout, 54 pks.
Cairo, 8
C. C. Castle, 12
Chicago, 1 ck.
Chiclayo, 15 cs. 15 frkns.
Calcutta, 60
Colombo, 120 kgs.
Coquimbo, 3 brls.
Delhi, 28
E. London, 200
Galatz, 111 240
Hong Kong, 61
Lagos, 2 cks.
Malta, 1
Manaos, 176 pks.
Momence, 10
Nassau, 7
Old Calabar, 25 kgs.
Para, 14
Punta Arenas, 90
Rotterdam, 5
St. Lucia, 21
Smyrna, 200
Pernambuco, 200 6 4

Painters' Colours—
Alexandria, 182 pks.
Colombo, 3 cks.
Genoa, 5 kgs.
Karachi, 112
Lahore, 312
Maranham, 29
Mollendo, 17 cs.
Montreal, 8
N. Orleans, 2 brls.
St. John's, Nfld., 105
Toronto, 12
Vera Cruz, 10
Vigo, 15

Paraffin Wax—
Bahia, 10 cs.
Fieme, 10 brls.
Genoa, 95 bgs.
Gijon, 10
Odessa, 120
Trieste, 9 cks.

Phosphorus—

B. Ayres,	10 cs.		£85
Sao Paulo,	4 c.		60
Osaka,	10		85
Hiogo,	3 t.	10	675
Shanghai,	5		855

Potassium Bichromate—

Melbourne,	4 t.	19 c.	2 q.	£174
Vera Cruz,	2			85
M. Video,		8		17
Rouen,	9	19		187
Piræus,	2		1	70

Potassium Chlorate—

Paranagua,	6 c.		£9
Philadelphia,	5 t.		150
Lisbon,	10		16
St. Petersburg,	15		395
Copenhagen,	5		155
Malta,	4		8
Hiogo,	5		136
Yokohama,	1	5	34
Naples,	1		28
Rio de Janeiro,	7		244
Konigsberg,	6		9
Hamburg,	3	5	112
New York,	10		290
Gutujewsky,	23	13	635
Santos,	5		178

Potassium Cyanide—
Taltal, 2 t. £243

Potassium Nitrate—
Para, 2 t. 13 c. 3 q. £51

Potassium Prussiate—
Genoa, 30 cks. £348

Potassium Silicate—
Amsterdam, 1 t. 5 c. 1 q. £10

Salt—
Abonnema, 10 t.
Adelaide, 7 20 cs.
Algoa Bay, 17 150 sks.
Amsterdam, 110
Antwerp, 215
Barbadoes, 100
Boston, 130
B. Ayres, 50
C. C Castle, 7 10 c.
Cartagena, 6
Chatham, N.B., 500
Conakry, 10
Cambletown, 302
Dixcove, 10
Egwanga, 40 3
Ghent, 197
Gd. Bassa, 11
Gd. Bassam, 6 5
Halifax, 10
Hamilton, 40
Harlingen, 480
Lagos, 165
Monrovia, 51 10
Montreal, 336
N. Orleans, 65
New York, 45
Old Calabar, 102 5
Para, 395 17
Pt. Elizabeth, 5 7
Rio de Janeiro, 150 cs.
Rosario, 6 13
Rotterdam, 210
Salt Pond, 3 15
Santos, 100
Sierra Leone, 15
Sydney, 294

Salt Cake—

Antwerp,	10 t.	3 c.	£14
Rotterdam,	25		34

Saltpetre—

Halifax,	1 t.			£22
Maranham,		19 c.	2 q.	23
Montreal,	42	8		590
Pernambuco,	1	5		29

Sheep Dip—

Odessa,	2 t.	5 c.	2 q.	£73
New York,	3			100
M. Video,	3	7	2	40

Soap—
Accra, 60 bxs.
Akassa, 10 cs.
Alexandria, 50 4
Algoa Bay, 750 70
Antwerp, 1,812
Assinee, 200
Auckland, 250
Axim, 250
Bale, 240
Bangkok, 200
Barbadoes, 1,125
Bombay, 24
B. Ayres, 19
Calcutta, 300 9
Callao, 3
Las Palmas, 20
Christchurch, 40
C. C. Castle, 225
Cape Town, 3,250 20
Constantinople, 20 5 brls.
Corinto, 25
Curacao, 375
Delagoa Bay, 1,020
Demerara, 500
Dunedin, 300
E. London, 1,375 86
Freemantle, 1,500
Funchal, 5
Geneva, 240
Genoa, 1
Gibraltar, 200
Greytown, 200
Hong Kong, 927
Johannesburg, 200
Karachi, 11
Iquique, 1
Lagos, 375
Malta, 6 66
Manaos, 660
Mombasa, 204
Mossel Bay, 50 39
New York, 3 8
Old Calabar, 4
Penang, 99
Para, 200
Patras, 4 22 pks.
Piræus, 8
Pt. Elizabeth, 920
Pt. Natal, 1,323 50
Punta Arenas, 1
Rangoon, 100 6
Rawal Pindi, 12
Rio de Janeiro, 1
Rotterdam, 390
St. John's, N'fld., 1 285
St. Thomas, 150
San Fernando, 300
San Francisco, 20
Schrutle, 35
Shanghai, 4,427 11,913
Sierra Leone, 340
Singapore, 710
Surinham, 125
Tamatave, 250
Toronto, 1 1,156
Trinidad, 750
Wellington N.Z., 250
Zanzibar, 204

Soda—
Galatz, 100 bgs.

Soda Alkali—
Adelaide, 20 brls.
Cairo, 15
Catania, 20
Genoa, 35
Panama, 80
Barcelona, 35
Zante, 35

Soda Ash—
Boston, 222 pks. 85 cks.
B. Ayres, { 220 / 50 brls.
Calmar, 100
Calcutta, 240 kgs. 87 436
Copenhagen, 850 bgs.
Antwerp, 15
Barcelona, 30 pks.
Gefle, 300 bgs.
Gothenburg, 34
Hiogo, 100
Helsingford, 5
Johannesburg, 50 kgs.
Lisbon, 20
New York, 3,348 bgs. 43
Oporto, 4
Perth, 80
Philadelphia, 2,940 222 tcs.
Rio de Janeiro, 120
Sydney, 40 brls.
Tunis, 101
Venice, 200

Soda Crystals—
B. Ayres, 100 brls.
Cape Town, 55
Antwerp, 67
Montreal, 50 bgs.
Philadelphia, 50 cks.
Piræus, 20
Quebec, 50 kgs. 50
St. John's, N'fd., 20
Samsoun, 20
Valencia, 500 bgs.

Sodium Bicarbonate—
Amsterdam, 20 kgs.
Beyrout, 30 30 dms.
Calcutta, 250
Delagoa Bay, 40
Dunkirk, 68
Galatz, 20
Genoa, 205
Hamburg, 120
Kustendjie, 34
Libau, 26
Lisbon, 30 cks.
Malta, 20
Marseilles, 190
Mexico, 25
Montreal, 190 pks. 100 dms.
Naples, 66 kgs.
New York, 125
Odessa, 75
Paris, 100
Pt. Elizabeth, 50 bgs.
Rotterdam, 25 kgs.
Rouen, 656 19 pks.
St. Catharines, 40
Seville, 65 5 cks.
Singapore, 15
Trieste, 30
Vigo, 20 brls.

Sodium Bichromate—
Tampico, 5 cks.

Sodium Carbonate—
Boston, 56 brls.
New York, 112

Sodium Chlorate—
Gutujewsky, 600 kgs.
Hamburg, 20
Rotterdam, 66 4 cks.

Sodium Hyposulphite—
Montreal, 15 kgs.
Tampico, 200

Sodium Silicate—
Cape Town, 12 brls.
Monastier, 50

Sodium Sulphate—
Portland, Me., 91 cks.
Reval, 100 kgs.

Starch—
Maranham, 16 bgs.

Strontia—
Libau, 3 t. 6 c. £[illegible]

Sulphur—
Calcutta, 6 t. £[illegible]
Montreal, 75 [illegible]
Ghent, 6

Sulphuric Acid—
Maranham, 2 t. 12 c. 2 £[illegible]
Manaos, 11

Superphosphates—
Charlottetown, 20 t. £[illegible]

Tartaric Acid—
Sydney, 5 c. [illegible]
Piræus, 4 [illegible]

Varnish—
Barcelona, 7 cks.
Boston, 21 pks.
Naples, 3
Osaka, 40 dms.
Rio de Janeiro, 5 c.
Valparaiso, 14

White Lead—
B. Ayres, 20 cs.
Rosario, 5 cks.
St. John's, N'fd., 4

Zinc Chloride—
Portland, 6 t. £[illegible]

MANCHESTER

Week ending May 4th.

Aniline Oil—
Belgium, 2 dms.
France, 6

Aniline Salts—
Alexandria, 18 cks.

Anthracene—
Germany, 84 cks.

Bone Waste—
Belgium, 63 bgs.

Carbolic Acid—
France, 174 btls.

Chemicals *(otherwise undescribed)*
Alexandretta, 30 brls.
Switzerland, 8 cks.

ras—
ndretta, 50 brls.
i, S., 20
iffs (*otherwise undescribed*)
t, 24 dms.
e, 4 chts.
ny, 4 cks.
d, 39
ha—
25 cks.
hylamine—
ny, 28 cks.
rs' Colours—
dria, { 20 kgs. 4 cs. 4 brls.
m, 1,010 c.
ium Chlorate—
t. 1 ck.
Dip—
10 dms.
n Bicarbonate—
ne, 2 kgs.
34
n Naphthionate—
ny, 31 cks.
rland, 25
dria, 10 brls.
30 cks.

GLASGOW.

Week ending May 5th.

ium Carbonate—
ania, £22
ium Chloride—
5 t. 18 c.
ara, 1 13¼
ius, 20 8
ium Sulphate—
dam, 44 t. 10 c.
oes, 50 5
na, 86 11½
207 8
ara, 148 ½
ts, 20
d, £217
a, 820 10
Meal—
d, 53 t. 2 c.
c Acid—
ania, £5
Oil—
le, £40
oducts—
rine Oil
£31
ol
iam, £225
sote Oil
rg, 11 t. 2 c.
ania, £7
3,015
£151
153 t. 19 c.
138
139
£50
am, 254
356 t. 6 c.
£76 10s.
as—
£45
ffs (*otherwise undescribed*)
e, £29 14s.
is—
e, £138 11s.
na, £41
45
l, £42 11s.
Janeiro, £22 10s.
100 t. ½ c.
am, £500
trate—
£48 10s.
Oil—
11 t. 12½ c.
1 18
4 11

Litharge—
Johannesburg, £21
Logwood—
Montreal, £29
Magnesia—
Adelaide, £21
Magnesium Sulphate—
Montreal, £64
Manganese—
Fiume, £98
Manure—
Rouen, 15 t. 3¾ c.
St. Kitts, 22
Paint—
B. Ayres, £171
Painters' Colours—
New York, qty.
U.S.A., £131
Rochefort, 56
Rotterdam, 69
Trieste, 193
Trinidad, £37 10s.
Paraffin Wax—
Paris, £77
Rouen, 35
Bergen, 2 t. 4 c.
Danzig, 21
Gijon, 32
Santander, 32
Spain, 28
Stockholm, 220
Barcelona, 89
Lisbon, 23
Trieste, 98
Potassium Bichromate—
Amsterdam, £115
Barcelona, 173
B. Ayres, 45
Christiania, 25
Lisbon, 29
Rouen, 227
Stockholm, 30
U.S.A., 855
Potassium Nitrate—
Mauritius, £48
Potassium Prussiate—
Montreal, £29
Potassium Sulphate—
Mauritius, £38
Soap—
B. Ayres, 3 t. 7½ c.
Sodium Bichromate—
Rouen, 5 t. 3¾ c.
U.S.A., 4 15¾
Almonte, 2 14¾
Barcelona, 8 18¾
Starch—
Lisbon, £51
Rio de Janeiro, 48
Superphosphates—
Valencia, 74 t. 18 c.
Tallow—
Rotterdam, 11 t. 4 c.
Treacle—
Christiania, 3 t. 19½ c.
Bergen, 11 11
Stockholm, 13 5
Varnish—
Santos, £21

HULL.

Week ending April 30th.

Bleaching Powder—
Danzig, 74 cks.
Carbolic Acid—
Amsterdam, 219 cks.
Chemicals (*otherwise undescribed*)
Antwerp, { 10 kgs. 4 cks 4 cs.
Christiania, 6 20 pks.
Copenhagen, 14 6
Danzig, 10 15
Genoa, 6
Gothenburg, 5 15
Hango, 6
Hamburg, { 9 65 10 kgs.
Libau, 50
Naples, 20
Rotterdam, 52
Reval, 13 80
Rouen, 25 cks. 20
Stettin, 2
Cottonseed Oil—
Amsterdam, 701 c.
Antwerp, 319
Bordeaux, 208
Bremen, 100
Copenhagen, 106
Dunkirk, 459
Ghent, 98
Gothenburg, 40
Hamburg, 1,059
Harlingen, 101
Marseilles, 1,124
Norrkoping, 238
Rotterdam, 584
Rouen, 373
Stockholm, 375
Dyestuffs (*otherwise undescribed*)
Danzig, 2 cks. 2 cs.
Linseed Oil—
Amsterdam, 105 c.
Bergen, 31
Bordeaux, 36
Christiania, 199
Copenhagen, 70
Hamburg, 177
Manure—
Bordeaux, 15 t.
Mineral White—
Amsterdam, 50 bgs.
Ochre—
Hamburg, 2 cks.
Painters' Colours—
Amsterdam, 4 cks.
Antwerp, { 89 91 cs. 98 kgs. 7 dms.
Christiania, 1 ck.
Copenhagen, 17 2
Drontheim, 2
Danzig, 20
Ghent, 2
Gothenburg, 150
Hamburg, { 28 15 14 4 brls.
Hango, 5 pks.
Marseilles, 5
Rotterdam, 13 7 1
Stockholm, 75
Stettin, 45
Pitch—
Antwerp, 330 t.
Rouen, 57
Soap—
Antwerp, 1 kg.
Hamburg, 3 cs.
Rotterdam, 254 bxs.
Stockholm, 1
Soda—
Rotterdam, 2 bgs.
Sodium Sulphide—
Genoa, 21 cks.
Tallow—
Amsterdam, 28 cks.
Tar—
Antwerp, 218 t. 4 brls.
Bergen, 5 cks.
Amsterdam, 22
Christiania, 10
Copenhagen, 8
Hamburg, 5
Helsingfors, 150
Rotterdam, 29
Stettin, 5
Varnish—
Antwerp, { 1 brl. 1 cs. 5 hmprs.
Gothenburg, 1
Hamburg, 1 dm.
Stockholm, 2 cks. 2
Stettin, 5

TYNE.

We ending April 30th.

Alkali—
Amsterdam, 6 t.
Antwerp, 10 5 c.
Bergen, 3
Christiania, 6 18
Ammonium Chloride—
Hamburg, 10 c.
Antimony—
Antwerp, 1 t.
Hamburg, 13
Arsenic—
Christiania, 1 t. 8 c.
Barium Binoxide—
Antwerp, 10 t. 9 c.
Barium Carbonate—
Hamburg, 130 t.
Bleaching Powder—
Aalborg, 1 t. 17 c.
Amsterdam, 8 12
Antwerp, 10 17
Christiania, 15 2
Copenhagen, 20
Odense, 5 10
Rotterdam, 7 10
Trondhjeim, 10 2
Caustic Soda—
Amsterdam, 5 t.
Antwerp, 4 tins
Odense, 1 t. 9 c.
Venice, 31 18
Magnesia—
Antwerp, 3 c.
Hamburg, 8
Paint—
Antwerp, 18 kgs. 12 c.
Copenhagen, 12
Hamburg, 1 t. 7
Leghorn, 3
Rotterdam, 1
Slag—
Pomaron, 30 t.
Soap—
Antwerp, 1 kg.
Soda—
Aalborg, 2 t. 8 c.
Antwerp, 2 bgs.
Christiania, 9 t. 2
Rotterdam, 10
Venice, 10 7
Soda Ash—
Christiania, 1 t. 8 c.
Hamburg, 14 14
Soda Crystals—
Amsterdam, 10 t.
Sodium Silicate—
Hamburg, 2 t. 10 c.
Sodium Sulphate—
Christiania, 25 t.
Sulphur—
Christiania, 100 t.
Superphosphates—
Christiania, 27 t. 7 c.
Turpentine—
Antwerp, 1 tin
Varnish—
Antwerp, 2 tins
White Lead—
Hamburg, 10 c.
Lisbon, 3 t. 3

GOOLE.

Week ending April 27th.

Benzol—
Boulogne, 48 cks.
Chemicals (*otherwise undescribed*)
Boulogne, 10 cks.
Hamburg, 16
Coal Products (*otherwise undes.*)—
Antwerp, 1 cs.
Boulogne, 28 cks. 1
Ghent, 1
Rotterdam, 109
Colours—
Amsterdam, 48 cks.
Boulogne, 3 1 cs.
Ghent, 11
Rotterdam, 12
Manure—
Ghent, 162 bgs.
Pitch—
Antwerp, 861 t.
Soap—
Amsterdam, 2 cks. 2 cs.

GRIMSBY.

Week ending April 30th.

Alkali—
Hamburg, 15 cs.
Ammonium Sulphate—
Antwerp 300 bgs.
Chemicals (*otherwise undescribed*)
Hamburg, 4 kgs.
Coal Products (*otherwise undes.*)—
Dieppe, 109 cks.
Hamburg, 20 btls.
Rotterdam, 24 cks.
Colours—
Antwerp, { 9 cks. 4 cs. 1 kg.
Gothenburg, 40 bgs.
Hamburg, 1 ck. 1
Malmo, 5
Rotterdam, { 3 1 kg. 46 pks.

PRICES CURRENT.

WEDNESDAY, MAY 11TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
„ Glacial	„		39/-	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3¼
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	2
Arsenic, white powdered	nett per ton	18	0	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	10	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/-	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	8	17	6
„ „ (grey) Hull	„	8	16	3
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	31	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	10
Barium Chloride	per ton	7	0	0
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	0½
„ 50/90 „	„	0	1	2
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	4
Crude Naphtha 30 % @ 120° C.	„	0	0	4
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	0	19	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	3
Copper	per ton	51	5	0
„ Sulphate	„	16	7	6
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	24	0	0
„ (distilled S.G. 1250°)	„	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	15	5	0
„ Litharge Flake (ex ship)	„	17	10	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	10	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	17	6
„ „ (grey) (ex ship	„	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	10	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	6
„ „ Miscible, 60° O.P	„	0	4	1½
Oils :—				
Cotton-seed	per ton	17	5	0
Linseed	„	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¼
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¼
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	7	6
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2½
Sodium (metal)	per lb.	0	2	9
„ Carb, (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ (f.o.r. w'ks.)	4	5	0
„ „ (Carb. Soda-ash) 48%	„ (f.o.r. w'ks.)	4	0	0
„ „ (Alkali) 58 %	„ (f.o.r. w'ks.)	4	2	6
„ „ (Soda Crystals)	„ (f.o.r. w'ks.)	2	5	0
„ Acetate (ex-ship)	„	11	5	0
„ Arseniate, 45 %	„	14	7	6
„ Chlorate	per lb.	0	0	3¼
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	per lb.	0	0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.) net pr. ton (12 ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „ (12 ton lots)		8	0	0
„ „ (70 % Caustic Soda) „ „ „ (12 ton lots)		7	2	6
„ „ (60 % Caustic Soda) „ „ (12 ton lots)		6	2	6
„ „ (pure liquor 90° Tw.) „ „ (12 ton lots)		3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Prussiate	per lb.	0	0	5¼
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	0	19	6
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6⅛
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone : Best Quality	„	4	15	0
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	21	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	68	10	0
Zinc (Spelter)	„	19	2	6
„ Chloride (solution, 100° Tw.)	„	6	0	0
„ Sulphate, Crystal	„	6	5	0

THE

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AND

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mmunications for the Editor, if intended for insertion in the week's issue, should reach the office not later than **Tuesday ning.**

cles, reports, and correspondence on all matters of interest to emical and allied industries, home and foreign, are solicited. pondents should condense their matter as much as possible, n one side only of the paper, and in all cases give their names ldresses, not necessarily for publication. Sketches should be n separate sheets.

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ertisements intended for insertion in the current week's issue reach the office by **Thursday morning** at the latest.

PATENTEES AND PATENT LAW PROCEDURE.

IN a general way, the outside public are plentifully supplied with information on the subject of procuring patents, but for all that, there is a large proportion of the general public which is wholly incapable of judging the merits of those who publish handbooks on how to patent inventions.

The Society of Patent Agents has done much to raise the *status* of those who engage in this profession, but the fact remains that instances keep occurring in which simple folk who seek to patent an invention are misled.

Complaints have been made more than once about the frequent use of the words "Patent Office" in the purlieus of Chancery Lane, in such a way as to trouble the ignorant and unwary, and cause private offices to be mistaken for *the* Patent Office. These complaints have been grounded on genuine cases of misapprehension, and are therefore something more than the vapourings of a crank or pessimist.

Although this practice is liable to cause mistakes, and make the path of the occasional inventor more thorny than necessary, still, it is not wholly without justification, and in comparison with a more recent development is of secondary importance.

If an innocent inventor enters a private patent office in mistake for the headquarters it is not such a serious affair so long as he or she falls into good hands. The Society of Patent Agents has done its best to provide a plentiful supply of qualified and trustworthy patent agents, and has been largely successful, but the other sort are always with us. Their *locus standi* was recently tested in the law courts with decidedly equivocal results, because, according to the verdict, though it is illegal for a man to style himself a patent agent, he may call himself a patent expert, put "Patent Office" on his door, and do the work of a patent agent.

The distinction between the qualified patent adviser and the unqualified is thus made so fine that for all practical purposes it may be said to be *non est*. It hardly seems satisfactory that the qualified man should thus be made one with the sharks, and it is infinitely less satisfactory for the inventing public.

The other point we have in view has reference to the difficulty a poor patentee (or even a rich one for that matter) has in upholding his patent and suppressing infringements even when he has run the gauntlet of the foregoing snares and pitfalls.

The present system of legal procedure with special-pleading experts is fast becoming notorious on account of its expense, uncertainty, long-windedness, and other incidental drawbacks. Though there has been plenty of fault-finding, there has not been a superabundance of practical suggestions as to the remedy of these evils, so that the following summary of some recent proposals is well worth presenting.

Instead of the present method of seeking redress for infringement, etc., it has been suggested that, when the action

has been begun, all evidence respecting technical matters or the sufficiency and construction of the specification shall be remitted to the Comptroller at the Patent Office, with power to call upon the parties to state the points at issue between them in the form of statutory declarations, under similar rules to those now in use at the Patent Office in opposing the grant of a patent or the amendment of a specification. When issue is joined, the documents, with the Comptroller's observations thereon, should be delivered to the Court, who would, of course, have power to call any declarant for further explanation if required. The Patent Office staff is quite capable of doing this work, while experts would give their evidence in writing (with drawings if necessary) uninfluenced by the views of other experts either for or against—a most desirable thing. The Judge would get the *expert's* opinion as such, without its having being re-drafted to discomfort opposing experts, or obfuscated by a thick veil of cross-examination.

RIO DE JANEIRO MANGANESE.

MANGANESE ore has formed an article of export from this district during the past four years. The quantities shipped by Messrs. Airosa and Co., and Mr. C. Wigg, who exploit the mines, have been as follows :—

Year.	Quantity - tons.	To—
1894	1,390	Middlesbrough
1895	5,490	,,
1896	14,120	,,
1897	8,800	Philadelphia.

This mineral is brought from the district of Miguel Burnier, in the State of Minas Geraes, which is connected by the Central Railway with Rio de Janeiro. The distance is about 310 miles, and the transport occupies from eight to ten days. The mines are situated at an altitude of 4,000 feet, in a pleasant and healthy climate, and the labour employed is chiefly Italian and native, with some Spanish and Portuguese.

Owing to insufficiency of rolling-stock and other difficulties, the railway can at present transport only 1,800 tons per month. The rate of freight is high, and the conditions generally are not favourable to the development of this industry. It is expected that about 20,000 tons of ore will be shipped this year.

The following is a copy of an analysis of a sample taken from a cargo by Mr. E. Riley, London, March 31, 1897 :—

Silica	0·83
Peroxide of manganese	78·85
Protoxide ,,	6·26
Oxide of iron	3·40
Alumina	1·21
Lime	*Nil*
Magnesia	0·21
Baryta	2·65
Sulphurous acid	0·027
Arsenic acid	*Nil.*
Phosphoric acid	0·077
Oxide of copper	*Nil.*
Potash	0·96
Oxide of antimony	0·05
Carbonic acid	0·77
Combined water	4·62
	99·914
Net manganese, per cent.	54·70

A sample of manganese ore given by Mr. Airosa, as taken from the mine at Lafayette, Minas Geraes, and said to contain 60 per cent., has been sent to the Associated Chambers of Commerce.

FICTITIOUS FERTILISERS. – Purchasers of fertilisers sold under the name of "fish manure" should notice a case which has been reported by Dr. Voelcker to the Royal Agricultural Society. At the price of 53s. per ton (at the works) a member of the society bought so-called fish manure, which on analysis proved to be nothing but gas lime and a little fish offal. At the outside its value could not be placed higher than 6s. per ton, and it would not have been worth carting any distance. The material was intended for use on potatoes, but after receiving the report of the analysis, which showed only 0·57 per cent of nitrogen, the purchaser returned the portion of the manure still unused.

IMPORTS AND EXPORTS FOR APRIL.

THE Board of Trade returns for the past month are fairly satisfactory, as a whole, but in chemical products this is not the case. There is a decrease all round in the *exports*. The chief decline in the *imports* was in indigo.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

Articles.		Quantities. 1897.	1898.
Margarine	Cwt.	77,819	79,240
Copper Ore and Regulus	Tons	8,912	11,300
Pyrites	,,	49,512	64,320
Tin	Cwt.	41,188	16,816
Alkali	,,	11,581	15,517
Brimstone	,,	29,015	36,386
Dyes, Coal Tar	£.	56,134	55,953
Tar	Barrels	2,899	2,422
Saltpetre	Cwt.	35,258	31,123
Petroleum	Gall.	12,990,838	13,972,963
Turpentine	Cwt.	12,342	33,566
Guano	Tons.	350	795
Nitrate of Soda	,,	12,958	23,983
Paraffin Wax	Cwt.	66,617	98,285
Rosin	,,	67,541	77,700
Tallow and Stearine	,,	102,008	207,796
Oil Seed Cake	Tons.	27,490	33,429
Wood Pulp	,,	25,610	33,059
Borax	Cwt.	——	416

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.		Quantities. 1897.	1898.
Alkali	Cwt.	477,566	297,958
Cement	Tons.	25,908	29,785
Coal and Coke	,,	2,825,593	2,601,256
Copper, all kinds	Cwt.	71,548	81,300
Iron and Steel	Tons.	331,038	282,046
Chemical Manures	,,	34,239	32,108
Oils, seed	,,	5,664	4,195
Salt	,,	74,558	45,326

EXPORTS OF ALKALI AND BLEACH.

THE following returns, which are taken from the official foreign and colonial statistics of the United Kingdom, give the amount and value of alkali and bleaching materials shipped to the undermentioned countries for March, 1898, as compared with March, 1897 :—

ALKALI.

Port.	1897.	1898.	1897.	1898.
	Cwts.	Cwts.	£	£
Russia	13,059	10,229	3,574	2,917
Sweden and Norway	4,405	8,813	903	1,806
Germany	17,092	18,070	4,103	3,961
Holland	12,451	11,206	2,577	2,240
France	7,123	4,987	2,553	1,709
Spain and Canaries	25,667	34,200	8,335	11,669
Italy	16,837	24,914	5,037	7,532
United States	253,040	89,149	56,081	18,725
Australasia	16,755	20,138	4,731	5,897
British North America	9,076	9,578	2,606	2,617
Other countries	99,285	114,589	27,038	32,165
Total	474,790	345,873	117,538	91,238

BLEACHING POWDER, ETC.

Port.	1897.	1898.	1897.	1898.
	Cwts.	Cwts.	£	£
United States	58,758	58,662	18,882	16,145
Other countries	28,721	31,227	9,650	9,888
Total	87,479	89,889	28,532	26,033

PROPOSED HULL SHIPPING AMALGAMATION.—There appears a likelihood of the firm of Wilson, Sons, & Co. acquiring the steamers owned by a Hull firm It is said that the acquisition of the vessels is only a question of a short time. The Wilsons will, it is believed, run the vessels in the same service—namely, between Hull and France.

The Patent List.

list is compiled from Official sources in the Manchester l Laboratory, under the immediate supervision of E. Davis and Alfred R. Davis, who report professionally value of Chemical Patents.

LICATIONS FOR ENGLISH LETTERS PATENT.

ture of Calcium Carbide by Hydrogen. J. E. T. Woods and W. A. . 10,021. May 2.
ing Liquids. O. W. Ackermann. 10,038. May 2.
Acids, etc. P. A. Newton. 10,152. May 3.
aking Machines. W. H. Day and W. Murch. 10,210. May 4.
rosive Paint T. Turnbull. 10,263. May 4.
ture of Phosphorus. C. S. Bradley and C. B. Jacobs. 10,290. May 5.
for Salt, etc. J. G. Shearer and W. H. Flett, Ltd. 10,307. May 5.
l Filter Presses. J. W. Hartley. 10,349. May 6.
Treatment of Sewage, etc. W. M. Ducat. 10,487. May 6.
Sewage, etc. J. Y. Johnson. 10,471. May 7.
ture of White Lead. J. Noad. 10,491. May 7.
ture of Oil and Peat Fuel. P. R. F. d'Humy. 10,502. May 7.
Liquids. C. W. Ramsay. 10,509. May 7.
Wood for the Manufacture of Charcoal. D. A. Casalonga. May 7.

RACTS OF LATEST COMPLETE SPECIFICATIONS.

bstracts are specially prepared for the Chemical Trade Journal, RIGHTS *of publication are* RESERVED. *This is the earliest bstracts of Chemical and allied patents accessible to the public.*

s of and Apparatus for Electrically Decomposing Solid Sub-es. W. S. Rourke, 15, Hanford Avenue, New Rochelle, New York, . Eng. Pat. 11,402. May 7, 1897.

lid material, such as salt, is placed between the electrodes, fixed horizontally in a non-conducting vessel. The lower is perforated. The solid is then moistened with enough steam to permit the ready passage of the current. By keeping up a ream an even decomposition is ensured, and no current is ecomposing water. All need of a diaphragm is removed, as ne escapes at once, and the sodium is hydrated and constantly y through the perforated electrode. There are three figures, an automatic feeding device is illustrated as well as the general on of the apparatus.

ents in or Relating to Sewage. R. H. Reeves, Cedardale, Bridge road, Putney. Eng. Pat. 9,558. April 14, 1897.

osition, designated "Thamisin," for treating sewage is pre-mixing, say, 1½lbs. of unslaked lime and 1lb. of gas tar with gallons of acidulated water (no strength mentioned). This ther for treating the sewage or sludge, and, it is claimed, e latter fit for transport and for fertilising purposes. There gures, showing mixers, etc., for preparing the composition, pplying it in different ways to the sewage, etc.

ents in or connected with the Treatment of Sewer Air or Obnoxious Gases, and also Sewage Matter during Transit in s. R. H. Reeves, Cedardale, Putney Bridge-road, Putney. Eng. Pat. April 14, 1897.

paratus for applying chemicals, such as permanganates or in" mixture, to sewers, is described and illustrated. It pro-a perfect water seal being maintained by the town's supply, ure of which is used in the mixing of the chemicals. The mechanically sprayed so as to catch the gases.

ents in the Oxidising of Oils and in Apparatus for the pur- S. Rosenblum and S. Rideal, both of 28, Victoria-street, Westminster, he Commercial Ozone Syndicate, Ltd., 31, Lombard-street, London. at. April 14, 1897.

been determined that only soluble "driers," such as the nd linoleates of lead and maganese, give good results with most ingenious device is described and illustrated, in which ntaining about 2 per cent. of "drier," is heated and forced by er pressure through a sprayer or atomiser. The oil is thus converted into a quick-drying oil in about two hours at emperatures (as against 30 hours by the usual methods), but d, and the output increased rather than diminished. Mix-even less time in treatment. The finished oil gives no standing.

Improvements in the Manufacture of Sodium Chlorate. A. R. Davis, 32, Blackfriars-street, Manchester. Eng. Pat. 12,534. May 20, 1897.

Finely divided anhydrous sodium carbonate is treated with chlorine, which is rapidly absorbed, forming a mixture of sodium chloride and chlorate. The latter is removed by lixiviation in the same manner as black ash is leached, only the vats can be heated by steam so as to obtain the *maximum* solution of chlorate with a *minimum* of salt. The chief point is the use of anhydrous carbonate, and it is therefore necessary to dry the chlorine before use by passing it through a sulphuric acid and coke drying tower. The absorption of the dried chlorine can be effected in chambers, periodically raking the surface of the carbonate; or preferably in a mechanical apparatus in which the chlorine and carbonate constantly move in opposite directions.

EXPORTS OF PETROLEUM FROM U.S.A.

THE Chief of the Bureau of Statistics, Washington, gives the following returns of the exports of petroleum and petroleum products for March. The total shipments were 85,944,541 gallons, compared with 78,622,541 gallons in 1897. The total for the nine months ending March, 1898, was 766,020,074 gallons, against 714,204,798 gallons in the same period of 1897. The details of the shipments are as follows:—

	Gallons.
CRUDE PETROLEUM.	
Total, Mar., 1898	10,893,978
,, ,, 1897	12,341,940
NAPHTHAS.	
Total, Mar., 1898	721,251
,, ,, 1897	1,129,322
ILLUMINATING.	
Total, Mar., 1898	67,168,075
,, ,, 1897	59,824,074
LUBRICATING AND PARAFFIN.	
Total, Mar., 1898	4,993,703
,, ,, 1897	4,138,395
RESIDUUM.	
Total, Mar., 1898	2,167,536
,, ,, 1897	1,188,810

A PETROLEUM SAFETY LAMP.

DR. EDWARD BERCHTEN, Chemical Engineer and Mineral Oil Expert, 28, Devonshire Chambers, Bishopsgate-street Without, London, E.C., has invented and constructed a lamp which, up to the present date, is maintained to be the only one entirely explosion proof. The advantages which the lamp claims to have over all other previous inventions are very simple, and can be easily understood from the following. *Firstly.*—The principal feature of the lamp is that the flame is entirely shut off from the accumulated gases in the feeding reservoir. *Secondly.*—All danger of accident or explosion is averted when extinguishing the lamp, whether the flame is high or low.

A further advantage for safety is that the lamp is entirely constructed of metal, which is an extra precaution against explosion. The flame wick is encased in a metal cylinder, connected in the ordinary way, and screwed into the cap on the oil reservoir of any lamp. The method by which the flame wick obtains its supply of oil is an adaptation of the capillary system, in which the oil is conducted by a special arrangement to the flame wick, by a supplementary wick connected with the oil reservoir and the bottom of the oil burner. By this arrangement it is impossible for any oil to escape, and as further evidence of the safety of the lamp, the same can be turned upside down or rolled upon the table without danger.

It is easily seen, says Dr. Berchten, that the advantages lie not alone in the safety of the lamp but in the entire safety of the masses who are compelled to use lamps supplied with the low flashing oil.

He adds that the patent will be adopted by the principal lamp makers, who will place it on the market within the reach of all working classes.

LEAD POISONING IN THE POTTERY DISTRICT.—On Thursday the Home Secretary received a deputation who urged that a resident woman inspector should be appointed for the Pottery district. In their petition—which is signed by the Duke and Duchess of Sutherland, various trade unionists, and the Women's Trade Union League—it is stated that the work of inspection can be best carried out by a woman, as the majority of persons employed in the industry are women and young persons. There is practically no machinery, and very few accidents due to it. On the other hand, there are a large number of lead-poisoning cases among women and young persons, and this is a matter admirably suited to a woman inspector to investigate.

Reports of Companies.

FIBROUS PETROLEUM AND OIL FUEL CO., LTD.

THE first ordinary general (statutory) meeting of the Fibrous Petroleum and Oil Fuel Company, Ltd., was held recently at Westminster Palace Hotel, Victoria-street, S.W., Mr. J. Morris Catton presiding, in the absence of Sir Thomas Tancred, Bart. (the chairman of the company). The Chairman said:

We have lost no time in getting to work on the plans and specifications for the erection of a factory at Barrow in-Furness, for the manufacture of our fuel. These are now practically complete, and will shortly be in the hands of the builders. We have also arranged for the leasing of im portant property at Barrow-in-Furness, on advantageous terms. It consists of about 300 acres covered with peat, and I consider that we are very fortunate in having been able to secure so suitable a property, in every way adapted for the special purpose for which we require it. You will probably ask why we have decided to put up this factory at Barrow. The reason is this: You will remember that in the prospectus it was stated negotiations were in progress for forming subsidiary companies for Barrow-in-Furness, for Manchester, and for Hull. The first company of these three to be formed, and for which contracts have been signed, will be Barrow-in-Furness. It was therefore natural that we should put up the first factory there. You may inquire again why, if a subsidiary company is going to be formed in Barrow-in-Furness, should we put up the factory there? The reason is this: First of all, it demonstrates to the public in Lancashire the value of the fuel, and, secondly, we shall be able to sell the factory to the subsidiary company at a fair profit over and above the price which we have fixed for the right to manufacture under d'Humy's patent. It is not intended to make the subsidiary company a large one. The capital will be £75,000., of which the promoters are to pay us one-third, namely £25,000., half in cash and half in shares. With regard to Manchester and Hull, negotiations are still in progress, and we expect the contracts to be signed shortly. We have also granted concessions for the formation of companies for Scotland, for Ireland, and for North and South Wales. A third of whatever capital these companies are formed for will be payable to this company. I believe that the capital for each of these companies will be fixed at £150,000. Calculating on this basis, the company will thus receive £150,000. from the three companies, payable half in cash and half in shares, as in the case of the Barrow-in-Furness Company. If these companies go through—and your directors see no reason to doubt that they will—the parent company will thus have in hand, as profit with which to pay dividends, etc., £175,000.—half cash, half shares. Of course, even this forms only a small portion of the profits we are likely to reap from subsidiary companies, inasmuch as we shall have practically the whole of the large towns in England left to exploit. I would like also to point out that the present war between America and Spain has clearly demonstrated the urgent necessity that there is for a fuel for use on board men-of-war in which economy of space and storage are combined with greater calorific power than that possessed by coal. As you know, we claim that our fuel fulfils these conditions, and it is the intention of the directors at an early date to bring its merits very strongly before the Admiralty for adoption in the Navy. You will remember also that our opinion of the value of this fuel for use in war vessels, torpedo boats, etc., was confirmed by Messrs. Norman, Tait and Co, the well-known analytical and consulting chemical engineers of Liverpool, and also by Mr. Lancaster, of Manchester, and Captain Waddilove, of the Royal Naval Reserve. From the supply of fuel to the Navy alone we should reap very handsome profits.

IMPROVED PEAT CHARCOAL.

Before concluding, I would like to tell you of an important discovery which has been made by Mr. d'Humy, and which, under the terms of the purchase agreement, belongs to this company. For some time past he has been making experiments for converting peat into hard charcoal for smelting purposes, and especially steel manufacture, and he has now succeeded.

THE CASTNER-KELLNER ALKALI CO., LTD.

The report for the period ended the 31st March, 1898, to be presented to the shareholders at the second annual general meeting to be held at the Cannon-street Hotel on the 27th inst. at 12 o'clock noon, states that the trading account shows a profit of £9,161., which has been earned from the working of the first installation of 1,000 horse-power. The profit has practically been derived from the working of one installation for seven months only. The second installation of 1,000 horse-power is now running, and will add its production to that of the first installation for the current year. The erection of the third and fourth installations of 1,000 horse-power each is being rapidly proceeded with, and will come gradually into work during the autumn, thus completing the full outfit of 4,000 horse-power during the present year. It is proposed to issue £80,000. 5 per cent, first mortgage debenture stock, part of an issue of £100,000. repayable in three years. Any portion of this issue will be allotted to the shareholders if they apply for it before the 8th day of June next, but the directors think it right to mention that they can place the whole or any portion not required by the shareholders. In November last a company was formed, which threatened to work an invention which the directors considered an infringement of their process, and they were advised by their counsel, Mr. Moulton, Q.C., Mr. Bousfield, Q.C., and Lord Robert Cecil, to commence proceedings to prevent the process from being worked, and these proceedings are now being taken. The amount carried forward is £8 678., and the directors reasonably expect that this amount, together with the further profits to be made for the six months ending 30th September next from the working of the two installations, will be sufficient to warrant an interim dividend being declared in October for the half year at the rate of £8. per cent. per annum.

THE NOBEL DYNAMITE TRUST COMPANY.

The report of the directors that is to be presented at a meeting of the shareholders in this company, to be held in London on the 26th inst., states that the nett profit for the year ended April 30th last amounts to £232,773. 0s. 6d., and, adding the sum of £18,633. 15s. 7d. brought forward from last account, there is a total available profit of £251,404. 16s. 1d. The directors recommend that £238,248. be applied in the payment of a dividend at the rate of 12 per cent. free of income tax, carrying forward £13,158. 16s. 1d. to next account. They state that the business in the past year has been generally satisfactory, although prices in the explosives trades have been reduced by competition, which makes itself most keenly felt in Germany.

HUGGINS' SOAP WORKS, LIMITED.

Messrs. Izard, French and Izard report:—"By instructions from the liquidator—a member of our firm—and in pursuance of the resolution passed at the extraordinary general meeting held on Wednesday, April 13th, we beg to submit the following short report:—(1) We find the premises are held upon lease for a term of twenty-one years from December 25th, 1895, at a rental of £100. per annum. The premises are out of repair, with stringent clauses in the landlord's favour. The four large soap vats appear to be let with the premises, and consequently cannot be sold apart from the premises or for purposes of removal. (2) The stock in hand appears to be worth about £300. (3) The plant (outside the landlord's property) consists of the glycerine and ice-making machines. It should be sold with the stock, and removed, if possible, before any further depreciation in value takes place. (4) The book debts are stated to be of nominal value. (5) The goodwill in the business is of little value, in consequence of the premises having been shut up by the receiver for the debenture-holders since he entered into possession. Any margin of realisation beyond the costs of sale and the amount of the debentures will be applied in payment of the ordinary creditors—either in full or pro rata—after which the balance (which we are afraid will be small) will go to the credit of the ordinary shareholders. The balance-sheet of March 31, 1897, shows a total loss of £1,719. 10s. 2d.; but how this loss has been absorbed we are at present unable to discover. The liquid assets appearing as the company's property at that date were: Stock, £1,715. 7s. 1d.; debtors, £501. 10s. 4d.; cash at bank, £1,389. 9s. 5d.; total, £3,606. 6s. 10d. The new machinery account stood at £1,218. 11s. 5d. The present realisable assets consist of the beneficial interest in the lease, and the plant and fixtures, the remaining stock, and a few debts (probably £500. at full value) estimated to realise, say, £250. to £300. We have not yet had time to trace how the loss is accounted for, owing to the absence of books and other proper data, but we are convinced that the late manager has been sadly wanting in his duties; he no doubt is the only person who can throw any light on the matter, and this he is disinclined to do. The books for 1897-98 are stated to be unposted, and certainly unaudited, and to prepare a profit and loss and trading accounts would mean a month or six weeks' work without any free fund to cover the cost, and probably a barren result in the end, and we therefore do not propose incurring this expense. We are proceeding to realise the company's assets, and we hope to sell the same as a going concern."

DIVIDENDS.

British Oil and Guano Co. Ltd.—The second general meeting of this company was held in 10, St. Andrew Square, Edinburgh, last week—Mr. William Falconer King presiding. The report of the directors recommended a dividend of 10 per cent. The Chairman, in moving the adoption of the report, referred to the restricted business done during the year owing to the disastrous failure of the herring fishing on the East Coast of Scotland and the consequent reduction of the quantity of offal. Dr. Downie seconded, and the report was unanimously approved. Mr. King was re-elected a director.

Fullers Earth Union (Limited)—The directors recommend a dividend of 3 per cent. for the year ended March 31st, carrying forward £1,606., as against 2 per cent. and a balance of £1,307. forward.

Parliamentary Jottings.

NECROSIS IN MATCH FACTORIES.

IN the House of Commons last week, Sir C. Dilke (Gloucestershire, Forest of Dean) asked the Secretary of State for the Home Department, with regard to the reporting of cases of necrosis, how it was that the cases of Plaistow, Maguire, Guest, and others, employed at Bryant and May's, had not been reported in accordance with the Special Rules for Lucifer Match Factories; and what had been the result of his further inquiries into the case of Lean.

Mr. Pickersgill (Bethnal Green, S.W.) asked a question on the same subject.

Sir M. W. Ridley (Lancashire, Blackpool): The inquiries which have been made reveal, I regret to say, systematic neglect on the part of this firm to comply with the obligations as to reporting cases of phosphorus poisoning. The case appears to me to be a very serious one, and I have given instructions for the prosecution of the occupiers. As regards the factory doctor, I cannot see sufficient grounds for supposing that, as suggested by the hon. member for Bethnal Green, he made a wilful mis-statement in the certificate as to the cause of death in the case of Lean, or that he had, indeed, actually diagnosed it as a case of poisoning. In previous cases, however, of phosphorus poisoning he appears to have committed a breach of the Factory Acts in not notifying the fact to the Chief Inspector, but as he notified them to the employer, and it seems possible that he was under a *bona-fide* belief that that was all that was required of him, I have decided not to take proceedings against him.

Sir C. Dilke: Is any inquiry going to be held into the question of the use of yellow phosphorus? Could the former committee be revived for the purpose?

Sir M. W. Ridley: It is desirable to have an inquiry into this question, but I am not able to say what form it will take.

Sir C. Dilke: Will the right hon. gentleman consider the advisability of reviving the former committee?

Sir M. W. Ridley: I have had the matter in mind, but I am not yet able to make any announcement.

BORACIC ACID IN MILK.

Major Rasch asked the President of the Local Government Board whether his attention had been called to the case of a farmer selling milk treated with boracic acid, and fined at the Marylebone Police Court, and if he would state on what grounds the English producer was punished for selling that which the foreigner placed on the home market without any restriction or liability?

Mr. Chaplin: I have seen the report of the case referred to. The offence, as I understand, in that case was of having given a false warranty in respect of milk produced in this country and treated with boracic acid, apply equally to the sale of imported milk so treated.

SALT IN INDIA.

On Tuesday Mr. Maclean asked the Secretary of State for India if any fresh arrangements had been made for the supply of salt to the tribes on the North West frontier, the excessive dearness of the Kohat salt, which they could not do without, having been alleged by the Afridis as one of the chief grievances which led them to take up arms against the British Government.

Mr. Lewis asked the noble lord whether the duty on Kohat salt in 1883 was four annas, whether it was then raised to eight annas, whether in 1896 it was raised to two rupees, whether this was thirty-two times the natural price of salt, and whether the Government contemplated a reduction of the duty.

Lord G. Hamilton: As to the supplementary question of the hon. member for the Flint Boroughs, there is no doubt that in the last fifteen years there has been a great increase in the duty on Kohat salt to bring it up to the level of internal salt, but I cannot say off hand what the increase has been. As regards the question on the paper, I have to say that so far as I know at present, no fresh arrangements have yet been made respecting the duty on Kohat salt; but, as I stated in answer to a question on February 11th, the subject is engaging the attention of the Indian Government, and I expect to receive a further report upon the matter when trade has been for some time resumed.

SERIOUS EXPLOSION NEAR SALTLEY.—Frederick Richard Earl (34), 67, Wright-road, Alum Rock, Saltley, was admitted last week to the Birmingham General Hospital suffering from a fractured jaw. Earl is an engineer, and was in his garden conducting some experiments with chemicals, with a view to their application as illuminants for cycle lamps, when an explosion occurred. The can in which he was mixing the chemicals was shattered, and a portion of it struck him on the jaw, with the result mentioned. A number of children were standing near at the time of the explosion, but fortunately escaped injury.

THE NORTH AMERICAN CHEMICAL COMPANY.

A BRANCH OF THE U.A. CO.

ARTICLES of association of the North American Chemical Company have been filed with the County Clerks of Bay and Wayne counties, Michigan, and the Secretary of State. This company will represent the United Alkali Company's interests in Michigan, being the American branch of the concern. The objects of the association, as set forth in the articles of association are:—

To carry on business as manufacturers of chemical products and drugs of all kinds and in all branches of such business; salt well proprietors, salt miners, brine producers and brine owners, and white salt manufacturers; manufacturers of manure, soap, paper, glass, pottery, terra cotta, sanitary and disinfecting preparations, coke, cement, and artificial stone; water proofers, India-rubber and leather manufacturers; millwrights, and makers of locomotive engines, wagons and rolling stock, lime burners, limestone quarry proprietors, and the preparing of mineral substances for sale or for treating in manufacturing processes; metallurgy in all its branches; ship builders, distillers and makers and dealers in mineral aerated waters; general merchants; manufacture and supply gas to the property of the company, and to deal with, manufacture and render saleable coke, coal tar, pitch, asphaltum, ammoniacal liquor, and other residual products obtained in the manufacture of gas; generation, accumulation, distribution, or application of electricity for use of company; to buy, sell, refine, manipulate, utilise, convert, import, export, supply and deal in all kinds of products and things, whether solid, liquid, or gaseous, capable of being used in any business which the company is authorised to carry on or produce in any such business.

The operations of the corporation are to be carried on in the counties of Bay and Wayne, Michigan, and other places in the United States and elsewhere. The capital stock is £120,000., two-thirds preferred and one-third general or common stock. The amount actually paid in is £60,000. The office is to be in Portsmouth Township, and the corporate existence is thirty years.

The stockholders are John A. E. Rayner, Liverpool, Eng., 9,998 shares common stock; H. M. Gillett, Bay City, 1 share common stock; M. J. Hummell, Bay City, 1 share common stock; John A. E. Rayner, Liverpool, Eng., 20,000 shares of preferred stock. The balance of the stock is to be issued as sold. The articles are signed by John A. E. Rayner, Martin J. Hummell, and Hezekiah M. Gillett.

M. MOISSAN ON LIQUID HYDROGEN.

AT the meeting of the Academy of Sciences on Monday M. Moissan read a paper by Professor Dewar on the liquefaction of hydrogen. M. Moissan reminded his colleagues of the section of chemistry that some years ago M. Cailletet and M. Wroblesky successively obtained by evaporation of acetylene a condensation which was supposed to be produced by the liquefaction of hydrogen. M. Wroblesky had seen a few drops of an unknown liquid falling in a glass tube and remaining for a few instants unevaporated, but what remained to be done was to obtain a quantity of liquid hydrogen sufficient to remove any doubt, and to test the properties of this strange body. This wonder of modern chemistry has been achieved by Professor Dewar, who, on the 10th inst., telegraphed that he had obtained as much as 25 cubic centimetres, or about one-third of a cubic inch, and on the 13th that he had doubled that quantity. This wonderful result had been obtained under a pressure of 180 atmospheres by a temperature of 205 deg. centigrade below zero, which is equivalent to *minus* 337 deg. Fahr. The temperature of the liquid is only 30 deg. or 38 deg. centigrade above the absolute zero of temperature—that is, the point at which, according to the prevalent notion among chemists, there is no heat at all, the molecular motion which produces heat being practically abolished. The operation was effected by the evaporation of liquid air by means of an apparatus which Professor Dewar had long ago constructed, and which M. Moissan remarked he saw on visiting him last year on the occasion of the liquefaction of fluorine. The experiments just successfully conducted were preceded by many failures. The vessels had double walls of glass, and each of the two surfaces had been silvered externally and internally, while a Crookes vacuum was established between them to lessen the conductibility. This liquid hydrogen was as limpid as clear water. When placed in a tube and exposed to the air it solidified the air in contact with it, which froze and fell to the bottom of the vase like snow, and was itself evaporated when all the liquid hydrogen had evaporated. If placed in a cotton wick and ignited, it burned slowly with a large hydrogen flame. If a tube having a small capillary extremity and filled with helium was plunged into this liquid, the helium filled the capillary extremity as one unaltered liquid. Fluorine having been previously liquefied, no other gas remained to be metamorphosed, just as Faraday predicted when he succeeded in liquefying the first gas. M. Moissan ironically remarked in conclusion that it now remained for chemists to find a new gas. A slight pause, as if of bewilderment, followed the reading of the paper.—*Times.*

Official Memoranda.

From the Board of Trade Journal.

BRITISH GUIANA TARIFF.

THE following changes have been made in the tariff of this district :—

		Dols.	Cts.
Brimstone and Sulphur	... per lb.	0	01
Salt, admitted as fine	per 200 lbs.	1	00
Salt, course in bulk	per 200 lbs.	0	75
Soap and soap powders	... per lb.	0	04
Starch, including corn starch	... per lb.	0	01

DUTY FREE.

Chemicals and other substances, which the Comptroller of Customs is satisfied are imported for the purification of water.

DUTY ON BORACIC ACID.

A despatch has been received at the Foreign Office from H.M. Ambassador at Paris, transmitting extract from the "Journal Officiel," containing law, establishing a duty on boracic acid, which has hitherto entered France free of duty, as follows :—

		General Tariff.	Minimum Tariff.
Natural Tuscan boracic acid, containing 15% or more of foreign matter	per 100 kilogs.	Free.	Free.
Boracic acid, other	francs	18·00	12·00

According to the above despatch of Sir E. Monson, it appears that since the Tariff of 1892 was passed, several manufactories of this chemical product have sprung up in France, but their acid is undersold on the French market by the German manufacturers, and it is for this reason that a duty has now been voted.

The importation of boracic acid into France has largely increased of late years. In 1895 the quantity imported was 397,977 kilogrammes, while in 1897 it had increased by 30 per cent., to 520,900 kilogrammes.

It will be observed that a distinction is made in the tariff between the pure boracic acid, on which a duty is imposed, and the impure, which will still be admitted free of duty, being largely used for candle-making, and therefore looked upon as a raw material.

The Customs Commission state that the duty of 12 francs is only equivalent to the difference of the cost of production in France and Germany, but it is more than probable that this figure has been exaggerated in order to afford an opportunity of imposing a protective duty.

ITALIAN DUTIES ON BORAX.

A despatch has been received at the Foreign Office from H.M. Ambassador at Rome, transmitting copy and translation of a Royal Decree, introducing certain modifications in the General Tariff of Italy as follows :—

		Lire.
Boric acid		
1 raw		Exempt.
2 refined	Per quintal	5·00
Borax, or borate of soda	do.	4·00

SALT SHIPMENTS FROM THE MERSEY.

THE war between Spain and the United States has already prejudicially affected shipments to the latter country, and will probably continue to impede trade. There is much less vitality than is usual at this season in business with British North America, and shipments for the month of April have been considerably below the average. For the first four months of the year, however, the total exports of salt from the Mersey are on a level with the corresponding period of 1897. The tables published show that the exports to the United States for April are only 3,375 tons, compared with 13,604 tons, but that there is only a slight falling off in the shipments for the previous months of this year compared with the corresponding period of last year. The exports to British North America have fallen off by over 2,000 tons. The only increases in the April shipments are to Africa, Australasia, and to United Kingdom ports. The total shipments for April comprise 43,549 tons, compared with 66,443 tons in April of last year. This includes 36,621 tons (against 54,489 tons) from Liverpool, and 6,928 tons (against 11,954 tons) from Runcorn and Weston. The returns for the whole of the previous months are more favourable, the shipments being 136,818 tons, compared with 114,824 tons. These figures include 122,878 tons (compared with 104,067 tons) from Liverpool, and 13,940 tons (compared with 10,757 tons) from Runcorn and Weston.

Loss of a Nitrate Vessel.—A large nitrate vessel, the *Marthe*, with a cargo of nearly 5,000 tons of sodium nitrate, sunk this week on the Goodwin Sands. All hands were saved.

UTILISING PETROLEUM WORKS' RESIDUES.

FOR the purpose of producing lubricating oil a previous treatment of the crude oil with sulphuric acid is very advantageous, as the lubricating oil distillates are thereby freed from a considerable portion of products unsuitable for lubricating purposes (resins, pitch and asphalts), while petroleum purified in this manner furnishes a large yield of real lubricating materials (engine oil and cylinder oil distillation), as compared with the distillation of unrefined crude earth oil. The sulphuric acid tar obtained as waste is a troublesome bye-product, and the question of turning it to profit is of no mean importance to oil refineries. R. Zalozieki has conducted experiments of late in this regard, and worked out processes to render this acid tar, *i.e.* the waste product of the treatment of crude petroleum with sulphuric acid, of use for the manufacturer of paints and varnishes.

The idea of preparing paints and varnishes from these wastes is not new, for as far back as 1863 Adolph Michigan took out an American patent (No. 3,791) according to which the waste acid was mixed with 40 per cent. of water and 20 per cent. of caustic alkalies, the liquid tar-mass then obtained serving for mixing with colours and varnish solutions. This imperfect application was followed by the American patents of P. Jenny, 1876, and his German patent in 1877. Jenny likewise neutralised and washed first of all the acid tar with alkalies and water, and then oxidised with hot air blown through, or removed by heating in kettles with addition of a soda solution (32° Tw.) the readily volatile constituents. An admixture of agents accelerating the oxidisation, such as lead oxide and manganic oxide, was also recommended in order to shorten the period of oxidisation. When the mass became perfectly hard on cooling the operation was finished, and this asphalted petroleum lacquer treated with organic solvents yielded varnishes similar to the asphalt varnishes; but these varnishes were neither cheap nor easy of production.

R. Zalozieki has now worked out a process well applicable in practice for the manufacture of paints and varnishes, and has been granted a patent thereon in Austria-Hungary. The raw product, obtained by mixing oils of different origin with concentrated sulphuric acid, leaving alone and drawing off the acid tar, is diluted with ½-1 part (by weight) of water while stirring. Thereby an undermost red brown diluted sulphuric acid layer and two upper layers separate which contain the precipitated reaction products of sulphuric acid on oils, consisting of polymerised constituents, organic ether, sulpho acids and sulphones. These two upper layers are employed for the manufacture of paints and varnishes; they are lifted off, heated in kettles with an equal volume of water and neutralised while stirring with caustic alkalies or basic oxides (lime, baryta, magnesia, etc.) or with carbonates and organic bases. Thereby the fundamental principle of the lacquer, a red homogeneous mass, is formed, which must only be dissolved in suitable solvents. For this purpose is used a mixture of alcoholic hydrocarbons obtained by mixing together any alcohol, nestyl-alcohol or estyl-alcohol, with benzine, oil of turpentine or light tar oil. The lacquer substance previously obtained is made anhydrous by drying, etc., with superheated steam, and is introduced in the cold into the above solution mixture. Almost a complete solution takes place, and the finished varnish solution is decanted. It is also possible to prepare two different lacquer solutions by stirring the lacquer substance in the cold direct into a mixture consisting of equal parts of spirit (50 per cent.) benzine, oil of turpentine or light tar oil, without further treatment, thus receiving two layers of different varieties of lacquers, when left to stand, a hydrocarbon lacquer on top and an alkali lacquer below. Then filter and separate the two varieties in the separating apparatus.

Theoretically these lacquers are mixed resin, metal-soap lacquers, and are equally useful for wood, metal and leather, giving firmly adhering glossy coatings of good covering power. Pure pertroleum varnishes are valuable as a substitute for brunoleine, the dull stain for furniture and as coloured stain for dark polishes. They are also well adapted as metal varnishes for iron, brass, zinc and tin; mixed with linseed oil varnish, an elastic varnish results, which is very serviceable for objects that are stretched and extended.

These petroleum varnishes are rather permanent and are not changed by air and light, but are very sensitive to water, especially the metal soap lacquers, while the resin varnishes are less so. With the exception of the latter, therefore, their application in the open air is not practicable.

It appears that all acid wastes obtained in the refining of petroleum, no matter of what origin, are well adapted for the varnish manufacture; hence the preparation of lacquer from acid tar is independent of the nature and treatment of the crude oil, and this varnish manufacture possesses a firm foundation in the petroleum industry. But only fresh waste acid is suitable for varnish manufacture, in which the polymerised constituents, *i.e.*, the lacquer substances, still completely outweigh the sulphonic acids, which are injurious in large quantities, and render the varnish very sensitive to water. The earth oil acids, how-

ever, are very desirable here, for they furnish the necessary drying agents, and just these acids were formerly neutralised, *i.e.*, rendered inactive, and removed by washing out, whereby the ill success in utilising acid tar for varnish manufacture was caused.

The yield in lacquer products is two-thirds to three-quarters of the acid tar used, and the yield in finished varnishes is two to two and a half times as large. The waste of the lubricating oil manufacture also furnishes good lacquers, especially petroleum resin varnishes, which dissolved in benzine or turpentine show a greater drying capacity than the varnishes prepared from petroleum waste acid; they closely resemble the ordinary asphalt varnishes.

For pecuniary and economical reasons the oil refineries had perhaps best work their acid tar into petroleum varnishes themselves, thus utilising in a favourable manner a bye product which has proven rather unsaleable so far.

BORACIC ACID AS A FOOD PRESERVATIVE.

LAST February, we referred to this matter and pointed out that so far definite medical testimony on the danger of boracic acid to health was wanting. The following, however, is definite enough:—At the Birmingham Police Court, this week—before Messrs. A. Chamberlain and W. Williams—the Birmingham Industrial Co-operative Society, trading at 15, Lodge-road, were summoned for selling butter which was not of the nature, substance, and quality of the article demanded.—Mr. Hiley, who prosecuted on behalf of the Corporation, said that on March 31st, Inspector Jones purchased half a pound of butter from defendants' shop for 6d., and on analysis the article proved to contain 70 grains of boracic acid. The objection the Corporation had to the use of the acid was raised purely in the interest of the public health, and they had no other interests to serve in the matter. Boracic acid was not a food at all, but a drug. Butter merchants used to employ salt as a preservative; but solely in the interests of the trade boracic acid had been used of late. The acid preserved butter for a longer period than salt; but it was dangerous to digestion, and brought on kidney disease and skin complaints.—Evidence of the purchase of the butter having been adduced, Dr. Hill said that he analysed the butter, which was pure. It, however, contained seventy grains of boracic acid to the pound, or equivalent to 1 per cent. The use of boracic acid in butter was of recent origin. It had powerful physiological effects, it created irritation of the stomach, was a depressant of the heart, and produced congestion and sometimes hemorrhage of the kidneys. If taken in the quantity found in the butter three times a day, it would be likely to set up some of the symptoms mentioned. Out of twenty-seven different samples of food he analysed twelve months ago twenty were adulterated with boracic acid. By Mr. McCardie (for the defence): Boracic acid preserved butter longer than salt. Witness did not know that the lower classes disliked salt butter. His opinion of the effect of boracic acid was in accord with that of well-known original physiological investigators and eminent practitioners.—Dr. A. P. Luff, scientific analyst to the Home Office, said that he was decidedly of opinion that seventy grains of boracic acid to the pound in butter would be noxious to health. In large quantities the acid was poisonous, and five deaths had been recorded. Whilst constantly taking boracic acid a person would be depressed, and mischief would be set up to the kidneys. In reply to Mr. McCardie, witness said that he objected to the use of boracic acid in butter because if it was allowed in butter it could not be objected to in other foods. He did not know that he was the only expert who was absolutely adverse to the use of boracic acid. He certainly would advise the prohibition of the use of boracic acid in food.—Dr. Vachell (Cardiff) gave corroborative evidence as to the noxious effects of the consumption of boracic acid.—Mr. Harrison Barrow said that he was the managing director of Barrows' Stores, and his firm sold about 26cwt. of butter weekly. Boracic acid was not used in the better class of butters, and in his opinion the acid was not necessary.—Mr. McCardie, for the defence, urged that even if the Bench convicted it was not a case for a heavy penalty. Those interested were not so desirous of resisting a conviction as to obtain a ruling of what might be done.—The Bench imposed a fine of 20s. and costs, to include £5, towards the expenses of the prosecution.—Mr. Chamberlain remarked that the penalty did not at all represent what might be done in a second case.

THE MANCHESTER SEWAGE DISPOSAL QUESTION.—The Rivers Committee of the City Council met on Monday, Alderman Sir Bosdin Leech presiding, to consider the decision of Mr. Yates, the county stipendiary magistrate, in the proceedings against the Corporation for pollution of the Ship Canal. Mr. Yates, it will be recollected, refused to grant any further extension of time for carrying out a scheme for the treatment of the city sewage. On the advice of the Town Clerk, who had consulted counsel, the committee decided to appeal to the Salford Hundred Quarter Sessions against the magistrate's decision. The resolution was carried unanimously.

THE COKE AND BY-PRODUCTS INDUSTRY OF DÜSSELDORF.

THAT this industry has made remarkable advances during the past decade is common knowledge, and the following particulars give definite expression to this development, and the possibilities of the future.

The production of coke rose from about 2½ million tons in 1886 to over 6¼ million tons in 1896. There were 100 coke ovens in operation in 1881, by 1890 the number had risen to 550, whilst the close of 1895 (the latest date to which statistics are complete) saw 1,850 at work.

Most of the new ovens are built according to the system of Dr. Otto Hofmann. There were 1,262 such ovens in the "Oberbergamtsbezirk" of Dortmund in the year 1895. Each oven works separately for itself, though the gases in the partition walls heat neighbouring ovens jointly. These ovens have double channels underneath the floor. The air is drawn into regenerators by fans. The temperature of the gas forced into the ovens is only 30° C. The valves are changed every half-hour.

The ovens of the new plant at "Constantin III." colliery near Bochum are 32·8 feet long, 5·9 feet high, and 1·74 feet wide on an average.

The loading of dry coal is 6,550 kilos., say a little over 6½ tons; the time for coking is 30 hours, and the production per oven and day is 4 tons, or in the year 1,440 tons per oven.

The output of coke is 79 per cent.

At the "Eintracht Tiefbau" colliery, near Steele, the ovens are not quite so wide, having on the average a width of 450 millims. (1·48 feet).

The coal contains 16 per cent of gas, and needs only 24 to 26 hours for coking. The production of each oven is also four tons per day. The output is 78 per cent of marketable coke.

"Tar ovens," without regenerator furnace, are built by Sémet-Solvay, Brussels; Dr. Brunck, Dortmund; and Ruppert, Essen.

The Solvay ovens at the Phœnix high furnace works in Ruhrort are 29·5 feet long, 5·6 feet high, and 1·2 feet broad. They have horizontal channels in the walls, and the loss of heat by radiation is small, as the partition walls and spandrel are very thick. The production of coke in these ovens is 1,100 to 1,200 tons in the year. They coke at a high temperature, the coking time being very short. They are very useful for an inferior quality of coking coal.

In Ruhrort good coking coal is mixed with 23 or 27 per cent. of dry coal by a new mixing apparatus of Schüchtermann and Cremer, of Dortmund. The two kinds of coal are let down out of the hoppers by shoots on to two rotary tables and drawn off in the due proportion by knives, the coal is mixed by a disintegrator. The ovens with horizontal channels do not seem to be approved in consequence of much difficulty in building.

The ovens of Dr. Brunck (German Patent, 73,504) have also thick partition walls. By this construction the "heating walls" are relieved, and they can be reduced in strength.

This is a great advantage with regard to intensive heating. The ovens are 6·5 feet high, 32·8 feet long, and 1·6 feet broad on an average. The breadth depends upon the quality of the coal. The flues in the walls are vertical. By this construction the gas has to travel only a short distance at a more equalised velocity, which is of the greatest importance in the extraction of by-products. 60 such ovens were built at the "Zollverein" colliery, near Caternberg, in the last year.

The "Ruppert's" oven (German Patent, 78,927) shows a new burning apparatus between every two ovens. In each of these the gas is introduced from the outside, and the four gas burners heat the side walls. Under this system the injurious effect of a difference of quality in coke next the door and that in the centre of the oven is avoided. But these ovens need a good deal more gas than those of "Otto-Hofmann," therefore the regenerator furnace system, though it is more expensive, is thought better than the recuperative system.

60 coke ovens produce in a month, according to the quality of the coal:—160 to 180 tons of tar; 40 to 100 tons of sulphate of ammonia.

The selling price of the by-products was in the last 5 years as follows:—

Year.	Per Ton. Tar. Marks.	Ammonia. Marks.	Benzol. Marks.
1891	39	230	63
1892	39	220	45
1893	29	200	39
1894	27	270	31
1895	27	200	25

COAL IN IRELAND.—The Ranfurly Mining Company, a small syndicate formed last year to prospect for coal on Lord Ranfurly's estate near Dungannon, county Tyrone, has just succeeded in striking a valuable seam of cannel coal 3ft. 3in. in thickness. The find is considered of great importance owing to the proximity of the new field to Belfast.

Trade Notes.

American Advance in Chlorates.—Owing to the war between the U.S.A. and Spain there has been a sharp advance in potassium chlorate. Dealers have exercised caution, and very rarely have buyers secured all they were willing to take. The market closed firm, with an upward tendency, and the prediction is made that 30-cent. chlorate is in view. It is a difficult matter to ascertain the amount of stock, the estimates varying from 3,000 to 15,000 kegs.

Explosion at a Chemical Works.—Last week a fire broke out in the sulphur department of the works of Chance and Hunt, Ld., Oldbury. It originated from an explosion, which shattered the windows and doors, and also ignited the woodwork. The fire was soon put out, but considerable damage was done.

Changes of Addresses.—Messrs. D. W. Greenhough & Son, late of 5, Rood Lane, ask us to note that their address is now 29, Rood Lane, E.C ; the Archimedean Co. (late of Coventry), ask us to notify that their address is now 69, Leam Terrace East, Leamington ; the Western Chemical Co., also intimate that their address is now 96, Renfield-street, Glasgow.

A Large Shipment of Carbide of Silicon.—The Carborundum Company, of Niagara Falls, N.Y., recently shipped 20 tons of carbide of silicon to the American Steel Foundry Company, of Granite City, Ill. This order for such an amount demonstrates that carbide of silicon has been determined to be of great utility in the manufacture of steel.

Disposal of Towns' Sewage.—A conference has been convened by the Manchester and Salford Sanitary Association, for Monday next, to discuss the opinion of experts on this question. There will be two meetings. At the first, to be held in the afternoon, Dr. Charles Porter, medical officer of health for Stockport, will introduce for discussion "the public health aspect of the question," and at the evening meeting Dr. D. B. Hewitt, chairman of the Public Health Committee of the Cheshire County Council and a member of the Mersey and Irwell Joint Committee, will open a discussion of the methods of treatment of sewage under the following heads :—1, Land treatment ; 2, treatment by bacterial methods ; 3, treatment by precipitation ; and 4, treatment by filters of various kinds.

Personal.—We learn that Mr. Charles Watson, late of Wallsden, near Todmorden,, and now of Manchester, sails for Buenos Ayres by the *Thames*, from Southampton, on Friday next, 27th inst. He goes to join the Primitiva Gas Co., of Buenos Ayres, in the capacity of head chemist, and manager of the chemical department, which engages extensively in the manufacture of dips, disinfectants, and anhydrous ammonia, the latter being largely used locally for refrigeration purposes. He has our good wishes, and those of a number of brother chemists, for success in his new sphere of labour. Judging by his past experience the post should prove congenial, and there should be no anxiety as to the future of the chemical department of the Company.

More Summonses Against the Manchester Corporation.—At the Manchester County Police Court, on Tuesday, Mr. W. H. Wilson, deputy clerk to the Mersey and Irwell Joint Committee, made an application to the stipendiary magistrate, Mr. J. M. Yates, in respect of an order made by the court upon the Corporation of Manchester concerning the pollution of the river by the discharge of sewage into it. Mr. Wilson said he was instructed to apply for leave to issue summonses against the Corporation of Manchester in making default of an order made by that court on the 16th of September, 1896. The inspector who had visited the works was in court, and prepared to give evidence. By leave of the court, he proposed to lay information and issue summonses against the Corporation charging them with having made default of the order upon the 12th of this month up to the present day inclusive. The Stipendiary granted the application, and made the summonses returnable for Wednesday, June 8th.

The Lady Smoke Inspector.—At Chadderton, near Manchester, this week, Mrs. Susan F. Hopwood, of Hopwood Hall, brought a number of cases for smoke nuisance against local firms. Messrs. James Chadwick and Company, of the Chadderton Calico-printing Works, were fined 10s. and costs in two cases. The firm of John Shaw, of Glenby Mills Chadderton, were summoned for smoke nuisance on three separate occasions. Mrs. Hopwood, in the course of her evidence, said Mr. J. W. Cowper (the representative of the firm) had on a previous occasion recommended her to go to the south of France, where the air was purer adding that she would rather stay here and look after the air for the poorer people. Mr. Cowper explained that the defendants had got special patent apparatus to consume the smoke, but like other apparatus it was "no good." As a matter of fact, they had not been summoned for two years, which showed that they were doing their best. Mrs. Hopwood : Not at all. I cannot be at their mill every day. Mr. Cooper : No you can't, thank goodness. The Bench imposed fines of 5s. and the costs in each of the three cases.

A Drysalter's Failure.—A meeting of the creditors of William Jackson, drysalter, Dickinson-street, Manchester, and residing in Thurlby-street, Longsight, was held at the Official Receiver's office last week, the Official Receiver (Mr. C. J. Dibb) presiding. The liabilities expected to rank were estimated at £600. 7s. 9d., and the assets at £237. 18s. 3d., leaving a deficiency of £362. 9s 6d. The debtor attributed his insolvency to want of capital, bad trade, ill-health, and large amount paid in life insurance premium. The meeting decided to leave the estate in the hands of the Official Receiver.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols keep wavering in price, 90's now standing at 1s., and 56/90's at 1s 1d., but the outlook is, comparatively, more reassuring, stocks being well in hand. As regards the future it is better to let it remain a sealed book and make the best of the present situation, such as it is. Anthracene is in rather better demand. Creosote and tar oils are in a satisfactory position. Crude naphtha is active at 5d. and solvent steady. Carbolic acids do not call for special comment. Pitch firm, and moving much better at 21s. 6d., f.o.b. East Coast.

Sulphate of Ammonia has been making good progress during the week, and prices have advanced at all ports. The demand appears to keep up in a way that has not been experienced for a long time, in the face of such a marked advance in quotations. Closing prompt values are :—Beckton, £9. 10s. ; London outside makes, £9. 5s. ; Liverpool, £9. 7s 6d. ; Hull, £9. 5s. ; Leith, £9. 5s. to £9. 7s 6d.

Nitrate of Soda, 7s. 6d. per cwt, thus being practically on a par with sulphate, nitrogen for nitrogen.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade the demand for products generally is only moderate. Values, as a whole, are steady ; but there does not appear to be any tendency in the direction of improved values. Bleaching powder remains quiet, and prices are unaltered at £5. 5s., f.o.r., makers, and £5. 15s. to £6., f.o.b., hardwood casks. Chlorates of potash and soda unchanged at 3¼d. and 3¾d. per lb, but demand is slack. For caustic soda values remain as last quoted—viz., f.o.b. Liverpool, 77%, £8. 5s. ; 74%, £8 ; 70%, £7. 2s. 6d. ; 60%, £6. 2s. 6d. net per ton. Ammonia alkali, 58%, is in good request, and firm at £4. 2s. 6d., bags, f.o.r. Soda crystals and bicarbonate have rather a firmer tendency. Saltcake has improved to 22s. 6d. per ton, in bulk, f.o.r. works. In sulphur business is active, and the advanced price is maintained. Sulphate of copper flat at £16. 5s., f.o.b. Potash, caustic and carbonate, are without alteration, and the demand is fairly brisk. Yellow prussiate of potash still scarce for prompt delivery at 6¾d., forward delivery 6½d. per lb. ; cyanide, 1s. 3d. per lb. Sulphocyanides quiet and prices unchanged. Brown acetate of lime is firm for prompt delivery at £5. 17s. 6d., c.i.f., grey, £7. 10s. per ton. Acetic acid has a firmer tendency. Acetate of soda quiet. Acetates of lead are firm in price, but there is only small amount of business passing. Bisulphide of carbon is dearer, at £11. 10s. White powdered arsenic still irregular, at £17. 10s. to £18, according to brand. Aniline oil and salt are rather dearer. Prices of borax and boracic acid continue at a low point. Ammonia salts are dull. Nitrate of soda is steady, with a firmer prospect. In miscellaneous chemicals trade as a whole is quiet.

REPORT ON MANURE MATERIAL.

There are indications that the manure season is drawing to a close, but there continues a fairly satisfactory output.

Practically the whole of the phosphate rock in first hands for 1898 shipment has been sold, and prices now reached are almost prohibitive. For 1899 a fair business has been done, but at prices reached buyers are becoming more disposed to wait. For 77/80% Florida rock, 1899 shipment, 7d. per unit is reported paid for the North Sea, which is fully equal to 6¾d. per unit c.i.f. to U.K. ports. For South Carolina about 6d. would probably be business for U.K. For Algerian 58/63% more money is asked, but we do not hear of any recent business.

Owing to advanced freights all round, the ideas of shippers of River Plate bones have advanced considerably, and something like £4. 10s. to £4. 12s. 6d. per ton would have to be paid for Summer-Autumn shipment. East Indian bone meal is held for £4. 10s. per ton, on spot, and £4. 15s. is asked for shipment.

Nitrate of soda is decidedly firmer in the forward position, and a large business has been done at some advance. On spot, however, the quotation for fine quality remains 7s. 4½d. per cwt.

THE METAL MARKETS.

NDON, WEDNESDAY.—Pig iron easier: Scotch warrants at 47s. 0½d.; Middlesbro', 40s. 8½d cash; and hematite, 51s. 2d. r easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £51. 7s. 6d. 1. 12s. 6d. cash, and £51. 13s. 9d. to £51. 18s. 9d. three months. teady. Straits closed at £66. 2s. 6d. to £66. 12s. 6d cash, and 16s. 3d. to £67. 6s. 3d. three months; Australian, £67. 2s. 6d. sh ingots, £69. Lead, firm: Spanish, £13. 17s. 6d. sh, £14. 2s. 6d.; Silesian spelter, ordinary, £19. 7s. 6d.). 10s. od. Nickel, 1s. 2½d. Antimony, £35. 10s. to £36. 10s. silver: First hands, £7. 12s. 6d.; second hands, £7. 12s. od. r *shares* steady: Cape, 4⅜ to 4½; Copiapo, 2⅜ to 2½; a, 2 to 2¼; Mason and Barry, 3¾ to 4; Rio Tinto, 25⅞ to Tharsis, 6¼ to 6¾.

ASGOW, WEDNESDAY.—Market flat, and a good business. n done at 47s. 2d. 47s. 2½d. and 47s. 1d. cash; also at 47s 4½d., d., and 47s. 4d. one month; buyers, 47s. 0½d. cash; , 47s. 1d. Cleveland done at 40s. 10d. cash, and 41s. to 40s. 11½d. ; buyers, 40s. 8½d. cash; sellers, 40s. 9d. Cumberland hematite at 51s. 3d., to 51s. 2½d. cash; also at 51s. 5d., 51s. 6½d., and 5½d. month; buyers, 51s. 2d. cash; sellers, ½d. more. lesbrough hematite, buyers, 51s. 9d. cash. Market closed to-w.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

LS.—Palm oil is rather quiet, but so far prices are well main-, the offerings being small. Sales of Lagos have been made at 12s. 6d.; Benin, £20. 15s.; hard oils, 20. 7s. 6d. There is a spot market for olive, Spanish selling at £30. 10s. per tun. ed is firm at 18s. to 18s. 6d cwt. for Liverpool makes in export Cottonseed is well held for 16s. 9d. to 17s. 3d. cwt. for Liver-efined. Castor oil is firm, and makers continue to hold good ds Calcutta for 3¼d. to 3 5/16d. per lb. First pressure French on spot at 3¼d. per lb. Tallow is very firm, North American quoted 21s. 6d. to 22s. 6d., and moving well thereat Resin no change in values, and the demand continues fair, but the ncy is towards quietude. Spirits of turpentine rather dull at d. per cwt. on spot. Petroleum steady, with American at 5¾d. , and Russian refined 4⅞d. per gallon.

KES.—The market has ruled quiet, and linseed had a dragging oth for American Western on the spot and Liverpool makes, the r marking a decline of 7s. 6d. from last prices at £6. 15s. to 2s. 6d., whilst the latter were still quoted on the old level, viz., o £8. 15s. per ton, according to brand. American decorticated nseed in good request at late rates., viz, £5. 17s. 6d. to 2s. 6d. for good to choice brands, according to quality, with pool makes selling rather slowly at former currencies, viz, £6. 15s. . 5s. for decorticated and £4. 12s. 6d. to £5. 5s. per ton for orticated makes, both according to brand. There is little or no ry experienced for spot parcels of Egyptian, and values again slightly for quay parcels, with sellers offering at £4. 7s. 6d. per and a quiet tone ruling thereat.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

LS.—Business is only passive here. There have been alterations lues but prices have got back again to prices ruling a week ago in linseed and cottonseed oils. Castor oil has gone firmer in sym-with other nut oils. An impression prevails here that wheat has its best prices, which have receded three and four shillings per er. The imports during the year as against the same time a year have been:—Wheat, 888,896 qrs. against 893,332 qrs.; linseed, 08 qrs., against 243,108 qrs.; rapeseed, 26,153 qrs. against 5 qrs.; cottonseed, 97,914 tons, against 93,120 tons; oilcake, tons, against 4,113 tons; olive oil, 2,390 tuns, against 2,145 Linseed oil is quoted 16s. spot naked; forward May/December, 3d. Boiled and refined £1. to £1. 10s. per ton extra. Refined n oil, spot naked, 15s. 1½d.; forward, May/August, 15s.; Nov./, 14s. 1½d. Filtered oil £1. extra, whilst crude oil is quoted 10½d. spot.; May/August, 14s.; November/April, 13s. 1½d.; £1., and ordinary barrels £1. 10s. per ton extra. Resin un-ed, 5s. 1½d. to 5s. 3d. spot, upwards. Turpentine firm and nged. Arachide nut oil from £28. per ton, in barrels, spot. es firm and unchanged. Cod oils, low qualities none offering, tions ranging from £18. per ton. Olive oil soaps move off from £16. 10s. per ton. Olive oils unchanged. Castor oil from per lb. for first pressure.

KES.—The market for feeding stuffs is very quiet, with no tion in rates, owing, no doubt, to the open weather:—Linseed , 95% pure, £8. to £8. 2s. 6d. Oilcakes (linseed), £6. 17s. 6d. to £7. Russians, £7. 7s. 6d. to £7. 10s. Cotton cakes dull, best makes £4. 10s. to £4 12s. 6d.; seconds, £4. 7s. 6d. to £4. 10s. Decorticated cakes, £6. 2s. 6d. Rape cakes unchanged.

PAINTS.—Business good. White and red leads unchanged. Ready mixed paints, £24 per ton Dry mineral colours from £3. 10s. per ton. Black varnish, £5. per ton. Disinfecting powder, 5% carbolic, £3; 10%, per cent., £3. 10s.; 15%, £4. per ton. Sanitary fluid, 10d. per gallon.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The sharp-toned recovery in sulphate of ammonia is the chief, almost the only, distinction in the northern market at present. Since this day week the movement upward has been to the measure of quite 10s. per ton, and the value to-day is a good £9 5s. prompt f.o.b. Leith. Forward dealing is being done to some amount, and at same figure as prompt. The article, being bared in stocks, and rather briskly called for at the moment, is likely to go higher. Mineral oils, naphthas, and solid paraffins all remain firmer than might have been expected, considering the time of the year, but there have been no rises in price. Three of the mineral oil companies have declared results of their trading over the past year. One pays 7½ on ordinary stock; another has a little on the right side, but not enough to divide; and the third has come out with a loss. Common chemicals quiet and unchanged in prices.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 12s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to £5. 0s. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 19s. 6d.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7. nett, Liverpool; bichromate of potash, 3¾d., less 5% for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. less 5% for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 7½d.; sulphate of ammonia, £9. 5s.; prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £16. 7s. 6d. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb., paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 18,211 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals are still quiet and volume of business disappointing for the time of the year. Soda crystals are in fair demand at £2. 12s. 6d. per ton, gross weight, locally. Sulphur scarce at £4. 15s. to £5. per ton. Caustic, 76/77% £8. 5s. to £8. 10s. and £7. 5s. to £7. 10s. for 70%.

Bleaching powder, softs, £5 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 15s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 5% (Liverpool); pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt steady at 9s. 6d. per ton, f.o.b. Tees.

COALS.—Market here is quieter and prices slightly easier, but there is still a full demand and collieries are well employed. Gas coals are shipping more freely, particularly to the Baltic. Coke is steady and demand increasing for both export and home consumption. Best Northumbrian steam, 13s. 6d. to 14s. per ton; second qualities, 12s. 6d. to 13s. per ton; small steam, 4s. 6d. to 5s. per ton; bunker coals, 9s. to 10s. per ton; household coals, 10s. to 11s. per ton; coke firm, 18s. 6d. to 20s. per ton.

New Companies.

British Illuminating Co., Ltd—Capital £50,000. in £1. shares. This company has been formed to adopt an agreement with Smith's Acetylene Gas Lamp and Generator Synd., Ltd, to manufacture, sell, and deal in calcium carbide, acetylene gas generators, and acetylene gas lamps and fittings, and to generate, sell and deal in acetylene gas, coal gas and electricity. The subscribers to the memorandum of association are:—G. Sandeman, Colinton, Midlothian, gas engineer; F. B. Taylor, 25, Mulgrave Terrace, Gateshead, accountant; P. Gilham, 27, Edwards-road, Whitley, Northumberland; J. A. Rowell, 10, Chester Crescent, Newcastle, agent; J. F. Kelly, 51, Doncaster-road, Newcastle, clerk; G. Robson, 64, Rothbury Terrace, Heaton, Newcastle, engineer; T. E. C. Green, 1, Poppelwell Terrace, Preston, North Shields, agent. Registered office, 27 Grey-street, Newcastle-on-Tyne.

John C. Gale & Co., Ltd.—Capital £100,000. in £5 shares (12,000 5% cum. pref.). This company has been formed to acquire and carry on the business of hide and leather factors, commission agents and otherwise, carried on at Liverpool as John C. Gale & Co., and to adopt an agreement with J. C. Gale, W. H. Edwards, and W. Waters. The subscribers to the memorandum of association are:—J. C. Gale, Aigburth Lodge, Liverpool, hide merchant; W. H. Edwards, 7, Hatton Garden, Liverpool, hide merchant; W. Waters, 7, Hatton Garden, Liverpool, hide merchant; L. B. Haddock, Exchange Buildings, Liverpool, shipowner; A. R. Rathbone, Exchange Buildings, Liverpool, cotton broker; F. Bowden, Hayman's Green, West Derby, Liverpool, gent; C. Collins, 34, Castle-street, Liverpool, solicitor.

John Wilson's Hide & Skin Co., Ltd.—Capital £30,000. in £1. shares (15,000 6% cum. pref.). This company has been formed to acquire the business carried on by J. Wilson, at Heckmondwike, Dewsbury, Wakefield, Huddersfield, and elsewhere, to adopt a certain agreement, and to carry on the business of hide and skin brokers, tanners, fellmongers, tallow melters, soap and candle makers, leather dressers and merchants, curriers, etc. The subscribers to the memorandum of association are:—J. Wilson, Nunroyd, Heckmondwike, hide broker; W. Wilson, Nunroyd, Heckmondwike, manager; A. Wilson, Nunroyd, Heckmondwike, hide broker; G. H. Wilson, Nunroyd, Heckmondwike, hide broker; Miss J. Wilson, Nunroyd, Heckmondwike; E. Goodall, Brighton-street, Heckmondwike, book-keeper; E. Lister, High-street, Heckmondwike, cashier. Registered office, Westfield Mills, Heckmondwike, Yorks.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 7th.

Acetic Acid—
Holland, 100 pks. R. W. Greeff & Co.
" 50 A. & M. Zimmermann
Belgium, 8 Beresford & Co.

Acetate of Lead—
France, 1 ck. Mory & Co.

Acetone—
Germany, £50 1 pk. Butler's Wf., Ld.

Alkali—
France, 120 c. J. Barber & Co.

Alum—
Holland, 18 pks. R. W. Greeff & Co.

Alumina—
Holland, £35 R. W. Greeff & Co.

Antimony—
Japan, 20 t. J. Bamber
Australia, 32 Union L. Co., Ld.

Antimony Ore—
Melbourne, 10 t. L. & I. D. Jt. Co.

Arsenic—
France, £25 J. Harrison

Asbestos—
Canada, £750 Deering & Robottom
Italy, 600 W. Byford
Germany, 42 Craven & Co
Italy, 135 Benper & Marteny
" 350 Pickford & Co.
" 170 British Asbestos Co.

Asphaltum—
France, 53 cs. Major & Field

Barium Chloride—
Germany, £63 Petri Brs.

Barytes—
Holland, 24 pks. J. R. Francis & Co.
Germany, 8 R. W. Greeff & Co.
Belgium, 85 O'Hara & Hoar
" 72 J. L. Lyon & Co.
" 191 brls. W. Harrison & Co.
Holland, 116 pks. "
" 50 W. H. Carey & Sons

Bleaching Powder—
Germany, 76 cks. J. M. Steel & Co.
France, 100 "

Bleaching Soda—
Germany, 140 c. H. Lambert

Bone Meal—
N. Russia, 50 t. D. de Pass & Co.
E. Indies, 151 A. Hunter & Co.
" 200 Union L. Co., Ld.

Camphor—
France, 2 pks. Union L. Co., Ld.
Japan, 76 Eastwood & Holt
" 67 tubs S. Figgis & Co.
Germany, 1 cs. Butler's Wf., Ld.
" 1 ck. L. & I. D. Jt. Co.

Caoutchouc—
Straits, 173 c. L. & I. D. Jt. Co.
France, 6 Girard Brs. & Co.
" 14 Lewis & Peat
Straits, 259 Butler's Wf., Ld.
" 25 Elkan & Co.
Ecuador, 50 Mancha & Co.
" 10 Rosing Brs. & Co.
Germany, 20 Major & Field
Zanzibar, 15 Hale & Son
" 64 L. & I. D. Jt. Co.
P. E. Africa, 50 "
" 5 Clarke & Smith
Straits, 114 W. Pope & Co.
Guatemala, 50 Major & Field
Rangoon, 20 Lewis & Peat
France, 27 H. Johnson & Sons
Aden, 4 L. & I. D. Jt. Co.
Ecuador, 35 Prop. Bull Wf.

Castor Oil—
Italy, 10 cs. City Coml. Wf., Ld.
France, 28 brls. J. Greig
Italy, 10 Hodgkinsons & Co.
Belgium, 4 W. T. Mills
Italy, 10 A. & M. Zimmermann
E. Indies, 100 R. G. Hall & Co.
Italy, 20 Baiss Brs. & Co.
France, 84 brls. J. Dards
" 38 Kumpf & Eckenstein

Caustic Potash—
France, 20 pks. Petri Brs.

Chemicals (*otherwise undescribed*)
Germany, £100 A. & M. Zimmermann
" 205 L. & I. D. Jt Co.
" 132 Craven & Co.
Belgium, 145 T. H. Lee
Holland, 318 cs. "
" 25 Hernu, Peron & Co.
Belgium, 198 T. Palmer
" 80 Leach & Co.
" 29 £13 John Cockerill Line
France, 91 30 Mory & Co.
Germany, 75 T. H. Lee

Citrate of Lime—
Italy 25 pks. B. Jacob & Sons

Copper Sulphate—
U. States, 600 brls. Brandies, Goldschmidt & Co.

Cream of Tartar—
France, 2 cks. H. Johnson & Sons
" 7 Vokins & Co., Ld.
" 22 5 pks. 5 brls. B. & F. Wf. Co.
" 8 W. C. Bacon & Co.
" 5 G. S. N. Co.

Cresoline—
U. States, £190 Lunham & Moore

Dyestuffs—
Anthracene
Holland, 120 cks. Burt, Boulton & Co.
Argols
Italy, 327 bgs. B. Jacob & Sons
Cochineal
Canaries, 20 pks. Swanston & Co.
Extracts
France, 122 pks. Bennett S. S. Co.
Belgium, 35 Leach & Co.
" 35 J. Norrenberg & Co.
U. States, 23 Van Oppen & Co.
Germany, 2 cs. Butler's Wf., Ld.
Madras, 11 chts. P. Macfadyen & Co.
France, 235 pks. L. J. Levinstein & Son
U. States, 15 "
Austria, 300 Boutcher, Mortimore & Co.

Gambier
Straits, 748 pks. J. Swire & Sons
" 505 Bellamy's Wf. Ld.
" 500 Brown & Elmslie
" 275 J. W. Cook & Co., Ld.
" 1,491 Adamson, Gilfillan & Co.
Indigo
Madras, 16 chts. H Johnson & Sons
" 95 L. & I. D. Jt. Co.
" 27 P. Macfadyen & Co.
" 47 Croysdale & Co.
" 74 R. Von Glehn & Sons
Logwood
B. W. I., 29 t. G. T. Benton & Son
Myrabolams
E. Indies, 1,280 pks. L. & I. D. Jt. Co.
" 2,000 P. & O. Co.
Shumac
Straits, 200 pks. S. Barrow & Brs., Ld.
Italy, 255 A. Laming & Co.
" 300 J. E. Scott
Tanners' Bark
Holland, 40 t. Hicks, Nash & Co.
Adelaide, 50 H. Devitt & Co.
Germany, 103 "
Belgium, 21 Leach & Co.
Germany, 82 Baxter & Hoare
N. Zealand, 7 Von der Meden & Co.
Natal, 51 Boutcher, Mortimore & Co.
Turmeric
China, 2 pks. R. Warner & Co.
" 191 R. G. Hall & Co.
Valonia
Greece, 70 t. Anning & Cobb

Farina—
Germany, 150 pks. Hernu, Peron & Co.
Belgium, 1 T. H. Lee
Holland, 150 J. Barber & Co.
" 100 150 bgs. T. H. Lee
" 50 J. Knill & Co.
Italy, 117 cs. T. Ronaldson & Co.

Glucose—
U. States, 100 pks. 577 c. Deering & Robottom
" 150 900 Page, Son & East
Germany, 25 204 Bennett S. S. Co., Ld.
U. States, 500 500 E. Thompson & Co.
" 50 300 C. Southwell & Co.
" 100 570 A. E. Piggott
" 1,100 1,570 Fellows, Morton, & Co.
" 200 200 Barrett Tagant & Co.
" 100 100 L. & I. D. Jt. Co.
" 250 250 C. S. Lovell
France, 200 200 Barrett Tagant & Co.
U. States, 3,471 15,422 R. G. Hall & Co.

Glue—
U. States, £85 Armour & Co.
" 26 Lunham & Moore
Belgium, 1,230 J. Barber & Co.
" 3 John Cockerill Line
Germany, 28 Butler's Wf., Ld.
" 600 Deering & Robottom
Belgium, 34 T. Palmer
France, 31 Mory & Co.
Holland, 700 J. Barber & Co.
" 35 T. H. Lee
Germany, 180 Sander & Kunz
" 675 L. & I. D. Jt. Co.
Italy, 26 Greenberg & Sons
U. States, 130 Anglo-American Oil Co.
Norway, 40 G. D. Jennings & Co.
Italy, 170 Duche & Son

Guano—
Peru, 276 t. Anglo-Coml. Guano Wks.

Iron Perchloride—
Holland, £65 J. Barber & Co.

Lamp Black—
U. States, 185 pks. L. & I. D. Jt. Co.

Litharge—
Holland, 18 pks. Spies Brs. & Co.

Lithopone—
Germany, £30 R. W. Greeff & Co.

Manganese—
Germany, 2 t. Butler's Wf., Ld.

Methyl Alcohol—
Austria, 24 dms. D. Thom. Demerit & Co., Ld.

Mica—
U. States, £50 W. Fox

Molasses—
U. States, 250 brls. 1,454 c. J. Smith & Co.
" 66 402 W. Balchin

Ochre—
Holland, 18 pks. Phillipps & Graves
France, 139 W. Harrison & Co.
" 59 cks. "
Holland, 2 pks. H. Johnson & Sons

Phosphate of Lime—
Algeria, 500 t. Odams Manure & Chemical Co.

Phosphate Rock—
Belgium, 25 t. B. Jacob & Sons
France, 280 West & Pearce

Pitch—
N. Russia, 150 cks. Fellows, Morton & Co.
W. Indies, 177 brls. L. & I. D. Jt. Co.

Plumbago—
U. States, 26 pks. Lunham & Moore
Germany, 9 cks. Brown & Elmslie

Potassium Bicarbonate—
Germany, 4 cks. H. Lambert

Potassium Carbonate—
France, 40 c. J. A. Reid
Germany, 18 Petri Brs.
" 80 Butler's Wf., Ld.
Belgium, 100 Petri Brs.

Potassium Nitrate—
Germany, £101 Butler's Wf., Ld.

Potassium Permanganate—
Holland, 25 cks. R. W. Greeff & Co.
20 pks. "

Potassium Sulphate—
Germany, 30 bgs. Union Ltge. Co., Ld.
Pumice Stone—
Italy, 2 t. J. Barton-Faithful
Canaries, 10 G. Knowles & Co.
Italy, 5 Seaward Brs. & Co.
" 12 G. W. Largen
Pyrites—
Spain, 1,943 t. C. Tennant, Sons, & Co.
Bossnio, 1,150 Davies, Jones, & Co.
Rosin—
U. States, 765 brls. Prod. Brokers' Co.
" 5,500 Fairclough, Dodd, & Jones
" 3,101 T. Wickels & Co.
" 4,965 F. & S. Chiesman & Co.
France, 90 cks. J. Watt & Son
Belgium, 100 brls. "
France, 17 B. & F. Wf. Co.
Salicylic Acid—
Germany, 48 pks. Butler's Wf., Ld.
Salt—
Germany, £13 Butler's Wf., Ld.
Saltpetre—
Germany, 12 bgs. L. & I. D. Jt. Co.
E. Indies, 688 Lucas & Spencer's Wf.
Germany, 30 cks. J. Hall & Son
E. Indies, 2,074 bgs. A. B. Curtis & Co.
Soda—
Holland, 370 c. R. W. Greeff & Co.
Soda Ash—
Belgium, 1,200 c. Darling Brs.
Sodium Acetate—
France, 225 c J. Harrison
Sodium Nitrite—
Chili, 15,740 bgs. W. Montgomery & Co.
Sodium Prussiate—
France, 62 pks. Blagden, Waugh, & Co.
Belgium, 21 "
Starch—
France, 40 pks. J. Barber & Co.
U. States, 1,599 Bertel Food Co.
Germany, 100 Phillipps & Graves
U. States, 200 R. G. Hall & Co.
Holland, 20 Hernu, Peron, & Co.
" 55 Phillipps & Graves
Germany, 3,460 Horne & Co.
Belgium, 80 Taylor Brs.
" 60 cs. Leach & Co.
" 1,190 180 E. & T. Pink
Holland, 1,380 530 Little & Johnston
" 630 A. Starck
Germany, 110 Phillipps & Graves
Holland, 80 Robinson, Roberts, & Co.
Belgium, 140 T. H. Lee
" 162 F. Claydon & Co.
" 245 J. Harrison
Stearine—
Holland, 51 bgs. J. Owen
Belgium, 317 H. Hill & Sons
Sulphur—
Italy, 21 t. J. Greig
" 20 A. Zumbeck & Co.
" 5 J. Puddy & Co.
" 6 J. Moreton & Co.
" 3 Taylor Brs.
Superphosphates—
Belgium, 50 t. Chemical Works
Tartaric Acid—
Italy, 20 pks. F. C. Devon & Co.
Holland, 45 "
" 22 B. & F. Wf. Co.
Tincal—
E. Indies, 67 pks. J. Puddy & Co.
Ultramarine—
Holland, 44 pks. Thames S. T. & L. Co., Ld.
" 18 Haeffner, Hilpert, & Co.
" 3 Phillipps & Graves
Germany, 27 Steinhoff, Sons, & Co.
Varnish—
U. States, 61 pks. Lunham & Moore
" 86 J. R. Francis & Co.
" 6 Dawson Brs.
Holland, 23 Zack, Cartwright, Ld.
Belgium, 2 T. H. Lee
France, 6 Mess Parisermes
U. States, 6 Dawson Brs.
Waste Salt—
Germany, 5 t. A. J. Luke & Co.
White Lead—
Belgium, 19 pks. Perkins & Homer
" 25 J. L. Lyon & Co.
Holland, 59 Taylor Brs.
France, 17 J. Watt & Son
Germany, 10 Randall Brs.
Belgium, 53 Robertson, Selby, & Co.
Austria, 10 Grosscurth & Luboldt
Belgium, 45 T. & W. Farmiloe
Germany, 12 Taylor Brs.
Belgium, 52 brls. J. R. Francis & Co.
" 14 pks. J. L. Lyon & Co.
Wood Pulp—
Norway, 220 pks. Becker & Co.
" 640 Christophersen, Andrews, & Co.
" 200 Johnsen & Jorgensen
U. States, 255 Henderson, Craig, & Co.
Norway, 401 Hummel & Co.
" 2,795 London Paper Mills Co.
Canada, 933 Henderson, Craig, & Co.
Belgium, 3,156 P. Heydemann
Norway, 60 W. G. Taylor & Co., Ld.
" 350 Tough & Henderson
" 150 Tegner, Price, & Co.
Holland, 54 Thames S. T. & L. Co., Ld.
" 50 W. G. Taylor & Co., Ld.
Zinc Oxide—
Holland, 240 pks. Spies Brs. & Co.
" 80 M. Ashby, Ld.
" 20 J. Owen
U. States, 340 brls. M. Ashby, Ld.
Germany, 500 cks. Soundy & Sons
Holland, 183 pks. J. Matton
Zinc Sulphate—
Germany, £30 City Coml. Wf., Ld.

LIVERPOOL.

Week ending May 5th.

Aluminium—
New York, 436 bxs. T. Ashbury
Antimony Ore—
Antofagasta, 133 bgs. Gregory Lawson
Asbestos—
Genoa, 47 bls.
Barilla Ash—
Catania, 40 bgs.
Barytes—
Hamburg, 8 cks.
Antwerp, 119 100 bgs.
Bone Meal—
Karachi, 11,000 bgs.
Rangoon, 308
Caoutchouc—
S. America, 36 bls. J. H. Schroeder & Co.
" 20 T. Adams & Co., Ld.
Carbolic Acid—
Hamburg, 2 cks.
Castor Oil—
Calcutta, 861 cs. Ralli Brs.
" 550
Marseilles, 114 cks.
Leghorn, 25 cs.
Chemicals (*otherwise undescribed*)
Hamburg, 3 cs.
Rotterdam, 2 carboys
Cottonseed Oil—
N. Orleans, 2,000 brls.
Cream of Tartar—
Bordeaux, 38 cks.
Barcelona, 20 brls.
Tarragona, 5
Dyestuffs—
Algarrobilla
Huasco, 686 bgs.
Totoralillo, 1,095
Coquimbo, 29 R. D. Warburg & Co.
" 720
S. America, 48 sks. P. L. Severin
Aniline Salts
Antwerp, 19 cks.
Cochineal
Hamburg, 1 bg.
Cutch
Rangoon, 300 bxs.
Antwerp, 6 cs.
Divi Divi
Hamburg, 1 bg.
Extracts
Hamburg, 3 cks.
Fustic
Tampico, 16,126 pcs. Heaven, Wedemeyer
Shumac
Palermo, 125 bgs. J. Kitchin, Ld.
" 550 Bk. B. N. America
" 500
Turmeric
Calcutta, 8 bgs.
Dyestuffs (*otherwise undescribed*)
New York, 50 cs. Pitt & Scott
Glucose—
New York, 250 bls. F. W. Simonds & Son
" 50 Richards & Given
" 250 R. W. Forbes & Son
" 400 brls. L. Sutro & Co.
" 25
Glue—
Hamburg, 900 bgs.
Rotterdam, 1 cs. 100
Guano—
Coquimbo, 507 t.
Limestone—
Antwerp, 1 cs. J. T. Fletcher & Co.
1 crt.
" 6
Linseed Oil—
Karachi, 6 dms.
Molasses—
N. Orleans, 100 brls.
Paint—
New York, 4 cs. Elder, Dempster & Co.
Madeira, 1 ck.
Boston, 35 Nicol & Co.
Paraffin Scale—
New York, 30 brls. Anglo-Am. Oil Co., Ld.
Phosphate—
Antwerp, 1,020 bgs.
Phosphate Rock—
Brunswick, Ga., 1,253 t.
Potash—
Hamburg, 17 cks.
Pyrites—
Huelva, 1,763 t. Matheson & Co.
Rosin—
Wilmington, 1,000 brls.
Salt—
Antwerp, 149 bdls. J. T. Fletcher & Co.
Saltpetre—
Hamburg, 25 kgs.
Calcutta, 237 bgs.
Soap—
New York, 2 cs. Colgate & Co.
Sydney, N.S.W., 2 Lever Brs., Ld.
Bordeaux, 330 bgs. Geo. G. Blackwell, Sons & Co.
9 cs.
Boston, 10 W. Foggitt
Sodium Nitrate—
Iquique, 3,778 bgs. Colorado Nitrate Co., Ld.
" 8,252 Liverpool Nitrate Co.
Antofagasta, 17,000
Starch—
Antwerp, 160 cs. J. T. Fletcher & Co.
" 450
New York, 50 brls. J. Armstrong & Co., Ld.
Hamburg, 160 cs.
Stearine—
Bordeaux, 1 bg.
Antwerp, 13
Sulphur—
Portland, Me., 40 brls. Allan Brs. & Co.
Catania, 90 bgs.
Tallow—
New York, 100 tcs. 100 hds.
Boston, 415 100
Sydney N.S.W. 135 cks. Lever Brs., Ld.
Tar—
Wilmington, 4,082 brls.
Tartaric Acid—
Messina, 12 cks.
Rotterdam, 2
Ultramarine—
Hamburg, 18 cks.
Rotterdam, 16
Varnish—
New York, 20 brls.
Waste Salt—
Hamburg, 1,204 bgs.
White Lead—
Rotterdam, 53 sks.
Wood Pulp—
Christiania, 37 cs. L. S. Dixon & Co.
Boston, 1,171 rolls Thin & Sinclair
Christiania, 6,400 bls. H. Tyrer & Co.
Skien, 4,716 "
Fredriksbald, 2,396 "
Rotterdam, 150 14 pks.
Zinc Oxide—
Antwerp, 100 brls.
Zinc White—
Rotterdam, 70 cks.

MANCHESTER.

Week ending May 7th.

Alkali—
Hamburg, 10 cks.
Alum—
Hamburg, 2 cks.
Ammonium Chloride—
Hamburg, 1 ck.
Barytes—
Hamburg, 29 cks.
Chemicals (*otherwise undescribed*)
Hamburg, 1 ck.
Colours—
Rotterdam, { 76 cks. 31 cs. 24 bxs. 208 brls.
Cream of Tartar—
Rotterdam, 30 kgs.
Farina—
Hamburg, 40 bgs.
Rotterdam, 1,500
Glucose—
Rotterdam, 10 cks.
Glue—
Antwerp, 1 ck. 4 bls.
Hamburg, 40 bgs.
Rotterdam, 130
Indigo—
Rotterdam, 1 chst.
Kainit Salt—
Hamburg, 390 t.
Lead Acetate—
Hamburg, 4 cks.
Limestone—
Antwerp, 9 crts.
Lithopone—
Hamburg, 20 cks.
Logwood—
Jamaica, 482 t.
Manganese Ore—
Vizagapatam, 1,020 t.
Nitrate—
Rotterdam, 8 cks.
Oxalic Acid—
Antwerp, 16 brls.
Rotterdam, 30 cks.
Potash—
Antwerp, 3 cks.
Hamburg, 3
Rotterdam, 10
Potassium Prussiate—
Rotterdam, 2 brls.
Shumac—
Palermo, 150 bgs. 70 bls.
Starch—
Antwerp, 224 cs.
Stearine—
Rotterdam, 7 bls.
Tannic Acid—
Hamburg, 5 cks. 8 cs.
Tar Salt—
Hamburg, 25 cs.
Tar Waste—
Rotterdam, 1 ck.
Tartaric Acid—
Rotterdam, { 40 cks. 40 kgs.
Ultramarine—
Hamburg, 1 ck.
Wood Pulp—
Bangor, 43,740 bls.
Hamburg, 627
Rotterdam, 86 reels 21 pks.
Zinc Oxide—
Antwerp, 81 brls.

HULL.

Week ending May 7th.

Acetic Acid—
Rotterdam, 9 blns. Hutchinson & Son
Acids—
Barletta, 43 cks. Wilson, Sons, & Co., Ld.
Arsenic—
Hamburg, 25 cks. Wilson, Sons, & Co., Ld.
20 brls.

Asbestos—
Reval, 37 bgs.
Barytes—
Antwerp, 20 cks. Bailey & Leetham, Ld.
Bone Meal—
Ghent, 2 bgs. Wilson, Sons, & Co., Ld.
Camphor—
Hamburg, 4 brls. Wilson, Sons, & Co., Ld.
Colours—
Ghent, 42 cks Wilson, Sons, & Co., Ld.
Rotterdam, 44 pks. W. & C. L. Ringrose
Antwerp, 4 Wilson, Sons, & Co., Ld.
Rotterdam, 5 cks. Hutchinson & Son
2 brls.
Dunkirk, 27 Wilson, Sons, & Co., Ld.
Cryolite—
Copenhagen, 65 cks. Wilson, Sons, & Co., Ld.
Dextrine—
Stettin, 40 bgs.
Dyestuffs—
Extracts
Hamburg, 10 brls. Wilson, Sons, & Co., Ld.
Shumac
Trieste 30 brls. Wilson, 13 bgs. Sons, & Co., Ld.
Palermo, 1,000 "
" 400
Farina—
Amsterdam, 100 bls. Wilson, Sons, & Co., Ld.
Ghent, 18 bgs. "
Glucose—
New York, 500 brls.
Stettin, 5 cks. Wilson, Sons, & Co., Ld.
Glue—
Stockholm, 20 bgs. Wilson, Sons, & Co., Ld.
Kaolin—
Amsterdam, 20 cks. Hutchinson & Son
Litharge—
Rotterdam, 1 ck. W. & C. L. Ringrose
Lithopone—
Stettin, 10 cks. Wilson, Sons, & Co., Ld.
Mineral White—
Fiume, 100 bgs. Wilson, Sons, & Co., Ld.
Ochre—
Rouen, 28 cks.
Phosphate—
Dunkirk, 1,500 bgs.
Ghent, 1,400
Pitch—
Amsterdam, 2 cks. W. & C. L. Ringrose
Potash—
Dunkirk, 20 cks. Wilson, Sons, & Co., Ld.
Hamburg, 20 Bailey & Leetham, Ld.
Pumice Stone—
Messina, 407 pks. Wilson, Sons, & Co., Ld.
" 30
Saltpetre—
Hamburg, 12 bgs. Wilson, Sons, & Co., Ld.
Soap—
New York, { 838 pks. 165 brls.
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Soda—
Amsterdam, 135 bgs Hutchinson & Son
Ghent, 150 Wilson, Sons, & Co., Ld.

Sodium Acetate—
Rouen, 11 cks.
Starch—
New York, 100 bgs.
Ghent, 240 cs. Wilson, Sons, & Co., Ld.
Antwerp, 40 Bailey & Leetham, Ld.
Sulphur—
Catania, 600 bgs. Wilson, Sons, & Co., Ld.
180 pks.
" 45 t.
Tallow—
New York, 35 tcs. Wilson, Sons, & Co., Ld.
Dunkirk, 234 cks. "
Tartaric Acid—
Rotterdam, 15 cks. W. & C. L. Ringrose
" 7 Hutchinson & Son
Ultramarine—
Rotterdam, 10 cks. W. & C. L. Ringrose
Waste Salt—
Hamburg, 85 t.
White Lead—
Rotterdam, 10 cks. W. & C. L. Ringrose
Antwerp, 26 Bailey & Leetham, Ld.
Amsterdam, 10 W. & C. L. Ringrose
Wolfram (Metal)—
Hamburg, 2 cs. Bailey & Leetham, Ld.
Wood Pulp—
Christiania, 160 bls. Wilson, Sons, & Co., Ld.
Hango, 219 J. Good & Sons
Zinc Oxide—
Antwerp, 50 cks. Bailey & Leetham, Ld.
Zinc White—
Rotterdam, 25 cks. W. & C. L. Ringrose

GLASGOW.

Week ending May 12th.

Ammonium Sulphate—
Amsterdam, 1 bg. J. Rankine & Son
Alumina Sulphate—
Rotterdam, 31 cks. J. Rankine & Son
Barytes—
Rotterdam, 213 pks. J. Rankine & Son
Barytes Sulphate—
Antwerp, 100 bgs. Clyde Shipping Co., Ld.
Citric Acid—
Messina, 8 cks.
Colours—
Rotterdam, 28 pks. J. Rankine & Son
Dyestuffs—
Alizarine
Rotterdam, 21 cks. J. Rankine
1 cs. & Son
Aniline
Rotterdam, 14 cks. J. Rankine
2 bxs. 9 brls. 6 cs. & Son
Hamburg, 1 ck. "
Cutch
Amsterdam, 1 cs. J. Rankine & Son
Madder
Amsterdam, 2 cks.
Shumac
Palermo, 50 bgs.
Farina—
Delfszyhl, 650 bgs. J. Rankine & Son
Glucose—
New York, 100 bls.

Magnesium Chloride—
Rotterdam 6 cks. J. Rankine & Son
Painters' Colours—
Antwerp, 1 ck. Clyde Shipping Co., Ld.
Phosphorus—
Baltimore, 5 cs.
Potassium Carbonate—
Rotterdam, 64 cks. J. Rankine & Son
Soap—
Rotterdam, 3 cs. J. Rankine & Son
Sodium Nitrate—
Iquique, 19,644 bgs. A. Cross & Son
Sodium Sulphate—
Antwerp, 1 ck. Clyde Shipping Co., Ld.
Starch—
Antwerp, 40 cs. Clyde Shipping Co., Ld.
Tallow—
Boston, 87 tcs.
Varnish—
New York, 14 brls. 4 cs.
Waste Salt—
Hamburg, 126 t. 1,500 bgs.
White Lead—
Rotterdam, 20 cks. J. Rankine
88 pks. & Son
Wood Pulp—
New York, 66 rolls.
Hamburg, 40 pks. 1,000 bls.
Zinc Ashes—
Antwerp, 4 cks. Clyde Shipping Co., Ld.
Zinc Oxide—
Rotterdam, 25 cks. J. Rankine & Son
Antwerp, 40
Zinc White—
Rotterdam, 190 cks. J. Rankine & Son

TYNE.

Week ending May 7th.

Alum Earth—
Hamburg, 222 cks. Tyne S. S. Co.
Ammonia—
Antwerp, 1 brl. Tyne
11 cs. S. S. Co.
Antimony—
Hamburg, 280 cs. Tyne S. S. Co.
Barytes—
Antwerp, 200 bgs. Tyne S. S. Co.
Hamburg, 10 cks. "
Colours—
Rotterdam, 2 cs. Tyne
5 brls. S. S. Co.
Farina—
Hamburg, 50 bgs. Tyne S. S. Co.
Glue—
Hamburg, 20 bgs. Tyne S. S. Co.
Lamp Black—
Gothenburg, 5 cs.
Limestone—
Antwerp, 37 crts. Tyne S. S. Co.
Litharge—
Rotterdam, 2 cks. Tyne S. S. Co.
Paint—
Hamburg, 7 cks. Tyne S. S. Co.
Phosphate of Lime—
Gravelines, 210 t.
Pyrites—
Huelva, 1,345 t. Tharsis Sulphur & Copper Co.
Quicksilver—
Copenhagen, 100 cyldrs.
Starch—
Rotterdam, 82 cs. Tyne S. S. Co.
Ultramarine—
Rotterdam, 1 ck. Tyne
1 cs. S. S. Co.

White Lead—
Antwerp, 20 cks. Tyne S. S.
Wood Pulp—
Christiania, 1,000 bls.
Gothenburg, 122 pks.
Zinc Oxide—
Antwerp, 40 brls. Tyne S. S.
Zinc Sulphate—
Gothenburg, 60 bgs.

GOOLE.

Week ending May 4th.

Alizarine—
Rotterdam, 40 cks.
Alkali—
Calais, 4 cks.
Alumina Sulphate—
Rotterdam, 13 cks.
Aniline—
Amsterdam, 3 cks.
Antimony—
Boulogne, 2 cks.
Barytes—
Antwerp. 200 bgs.
Rotterdam, 40
Caoutchouc—
Boulogne, 9 cks.
Colours—
Rotterdam, 10 cks. 4 cs.
Dyestuffs (*otherwise unspecified*)
Boulogne, 63 cks. 1 cs. 51 pks.
Rotterdam, 351 110
Farina—
Delfszyhl, 466 bgs.
Hamburg, 400
Glucose—
Calais, 100 bgs.
Hamburg, 20 cks.
Glue—
Boulogne, 3 bls.
Rotterdam, 40 bgs.
Logwood—
Belize, 842 t.
Madder—
Rotterdam, 1 ck.
Potash—
Antwerp, 20 dms.
Calais, 31
Pyrites—
Huelva, 607 t.
Saltpetre—
Rotterdam, 100 bgs.
Sodium Silicate—
Rotterdam, 2 cks.
Tartar—
Antwerp, 8 cks.
Rotterdam, 6
Varnish—
Rotterdam, 1 cs.

GRIMSBY.

Week ending May 7th.

Caoutchouc—
Rotterdam, 2 cs.
Coal Tar Dyes—
Hamburg, 47 pk
Colours—
Antwerp, 4 cks. 95 pk
Hamburg, 13 10 cs. 135
Rotterdam, 8 1 7
Farina—
Hamburg, 275 bgs.
Glue—
Antwerp, 5 bls.
Lamp Black—
Helsingfors, 62 cks.
Starch—
Rotterdam, 40 cs.
Zinc Ashes—
Antwerp, 13 cks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 11th.

Acids—
Durban, 8 c. £10

Alkali—
Singapore, 10 c. £7
Tangiers, 1 t. 5 8
Ammonia—
Suakin, 7 cs. £11

Pt. Elizabeth, 1 t. 59
Calcutta, 18 c. 18
Rotterdam, 95 dms. 45
Hankow, 1 18
Malaga, 9 27

Ammonium Carbonate—
Rangoon, 5 c
Paris, 2 t. 5 c.
Bremen, 1

Ammonium Chloride—
Santos, 3 t. 16 c. £47
Ammonium Sulphate—
Dunkirk, 30 t. £262
Havre, 200 2,368
Mauritius, 300 2,900
Berbice, 50 442
Ostend, 137 1,199
Arsenic—
St. Petersburg, 5 t. 2 c. £107
Bleaching Powder—
Pt. Elizabeth, 3 t. 5 c. £31
Borax—
Rotterdam, 50 cks. £75
Mannheim, 1 t. 18
Cologne, 1 10 c. 34
Constantinople, 1 14
Brisbane, 2 11 90
Carbolic Acid—
New York, 34 cks. £74
Lisbon, 20 160
Newport News, 121 962
Carbonic Acid Gas—
Oporto, 5 c. £13
Caustic Potash—
Rockhampton, 1 t. £33
Caustic Soda—
Pt. Elizabeth, 19 c. £8
Rockhampton, 3 t. 57
Melbourne, 12 13
Fremantle, 7 21
Normanton, 10 18 78
Lyttelton, 6 17 50
Chemicals *(otherwise undescribed)*
Antwerp, 16 cks. £200
Dunkirk, 35 500
Bombay, 4 cs. 13
Karachi, 10 dms. 2 6 pks. 50
Perth, 2 24 59
Baltimore, 8 27 kgs. 30
New York, 30 1 66
Madras, 10 17
Paris, 8 cks. 28
Genoa, 40 219
Foochow, 1 18
Brisbane, 10 pks. 15
Toronto, 3 t. 32
Adelaide, 6 21
Auckland, 3 17
Boulogne, 2 11
Brussels, 2 10 kgs. 81
Hamburg, 8 cks. 69 582
Rotterdam, 8 17 277
St. John's, N.B., 9 pks. 28
Montreal, 1 3 10 47
Cologne, 1 10
Citric Acid—
St. Petersburg, 6 t. 16 c. £682
Bombay, 2 13
Brisbane, 2 kgs. 12
Suakin, 1 ck. 6
Dunedin, 11 58
Tampico, 2 11
Lisbon, 15 87
Melbourne, 5 32
Amsterdam, 3 48
Coal Products—
Alizarine
Montreal, 5 cks. £64
Aniline
Boulogne, 2 cs. £44
Aniline Oil
New York, 19 dms. £530
Anthracene
Ludwigshafen, 69 cks. £260
Rotterdam, 212 837
Benzine
Cape Town, 8 dms. £8
E. London, 20 15
Creosote
New York, 500 cks. £353
Naphtha
Sydney, 25 dms. £12
Treport, 25 brls. 80
Naphthaline
Bordeaux, 15 cks. 32 bgs. £37
New York, 100 56
Pitch
Boston, 749 cks. £405
Rangoon, 10 7
Baltimore, 1,672 bgs. 403
Philadelphia, 200 90
Hochfeld, 140 t. 191
Dusseldorf, 28 brls. 62
New York, 545 cks. 244
Sydney, 8 cs. 7
Alexandria, 30 10
Dunkirk, 285 t. 285
Antwerp, 824 982
Tar
Durban, 250 dms. £7
Melbourne, 10 cks. 14
Hamburg, 100 50
Delagoa Bay, 150 9
Alexandria, 10 brls. 11
Cologne, 200 100
Danzig, 500 500 496
Tar Oil
Boston, 500 brls. £300
Tar Salts
New York, 3 cks. £150
Toluol
Boulogne, 25 cks. £128
Rotterdam, 48 runlets 240
Antwerp, 5 dms. 73
Hamburg, 25 128
Copper Sulphate—
Bordeaux, 39 t. 10 c. £651
Paris, 95 1,577
Batoum, 15 3 233
Antwerp, 30 480
Oamaru, 1 20
Cream of Tartar—
Dunedin, 10 cs. £41
Cartagena, 3 c. 13
Fremantle, 10 41
Cairns, 3 10
Disinfectants—
Kurrachee, 1 ck. 1 cs. £19
Wellington, 29 pks. 23
Madras, 10 37
Bremen, 5 10
Penang, 5 100 dms. 77
Hong Kong, 52 100 315
Jamaica, 5 20
Guano—
St. Kitts, 9 t. 18 c. £89
Manure—
Bordeaux, 40 t. £234
Rouen, 5 15
Landerneau, 95 390
Marseilles, 3 20
Madras, 10 cks. 80
Hobart, 51 180
Oporto, 31 188
Chinde, 25 57
Rosario, 12 c. 10
San Francisco, 16 85
Boulogne, 2 48
Nitric Acid—
Channel Is., 28 carboys £44
Phosphorus—
E London, 5 cs. £52
Potash Salts—
Auckland, 12 t. 6 c. £950
Potassium Cyanide—
Delagoa Bay, 30 cs. £322
Fremantle, 17 t. 18 c. 1,638
Melbourne, 1 100 930
New York, 100 485
Auckland, 2 8 233
Townsville, 36 9 25 4,416
Potassium Prussiate—
Calcutta, 6 kgs. £19
Salicylic Acid—
Fremantle, 2 c. £11
Saltpetre—
Dunedin, 10 c. £10
Delagoa Bay, 1 t. 20
Santos, 5 6 100
Rotterdam, 10 10
Wellington, 10 11
Oporto. 6 15 125
Sheep Dip—
B Ayres, 13 t. 13 c. £329
Launceston, 230 pks. 85
Soda—
Rotterdam, 10 t. 18 c. £50
Oporto, 1 9
Soda Ash—
Normanton, 3 t. 6 c. £13
Lyttelton, 6 15 30
Sodium Bicarbonate—
Suakin, 1 t. £7
Bombay, 6 c. 13
Christiania, 13 7
San Francisco, 2 7
Sodium Binarseniate—
Bremen, 1 t. 2 c. £35
Sodium Carbonate—
Adelaide, 5 cks. £9
Sodium Hyposulphite—
Dunedin, 1 t. £5
Yokohama, 50 kgs. 2 cs. 40
Sodium Sulphate—
Ghent, 50 t. £75
Sulphur—
Trinidad, 15 c. £6
E. London, 1 t. 2 11
Sulphuric Acid—
Durban, 2 t. 19 c £13
Suakin, 1 1 6
Hong Kong, 1 8 15
E. London, 20 dms. 22
Tartaric Acid—
Dunedin, 2 cs. £12
Rouen, 10 c. 59
St. Petersburg, 6 39
Wellington, 10 56
Pt. Elizabeth, 2 16
E. London, 1 7

LIVERPOOL.

Week ending May 11th.

Acetic Acid—
Lisbon, 5 brls. £8
Copenhagen, 1 t. 10 c. 27
Alkali—
Wellington, N.Z., 4 t. 19 c. £20
Barcelona, 14 10 58
Sfax, 2 15 1 q. 11
Progresso, 1 6 8
Sydney, 4 5 3 18
Brisbane, 2 16 12
Valencia, 10 16 2 44
Malta, 7 5 1 30
Para, 9 19 3 40
Alum—
Syra, 2 t. 1 c. £10
Ancona, 2 10
Adelaide, 1 17 9
Demerara, 2 19 3 q. 16
Genoa, 1 5
Rangoon, 2 10
Galatz, 4 5 20
Beyrout, 2 15 14
Oporto, 2 10 13
Bombay, 2 6 17
Ammonia (Liquid)—
Lima, 4 c. £7
Ammonium Carbonate—
Leghorn, 1 kg. £24
Marseilles, 2 t. 1 c. 57
Genoa, 1 24
Oporto, 1 25
Copenhagen, 1 10 1 q. 20
Montreal, 3 5
Bilbao, 1 1 3½
Adelaide, 5 10
Algoa Bay, 2 8
Hamburg, 19 28
Gothenburg, 11 15
Ammonium Chloride—
Vera Cruz, 2 c. £4
Patras, 3 5
Alexandria, 1 2
Santos, 1 2
Ghent, 10 15
Hamburg, 1 t. 5 38
New York, 22 10 402
Ammonium Sulphate—
Gd. Canary, 60 t. £587
Philadelphia, 60 15 c. 530
Valencia, 131 10 1,165
Bleaching Powder—
Ancona, 10 cks.
Baltimore, 97
Barcelona, 22
Bari, 7 15 kgs. 25 brls.
Bilbao, 27
Boston, 233
Calcutta, 109 20 bxs.
Ghent, 75
Milwaukee, 110
Montreal, 42
New York, 503
Philadelphia, 253
Pt. Natal, 20 dms.
Rio de Janeiro, 20
Seville, 20
Vera Cruz, 20
Boracic Acid—
Montreal, 15 c. £19
Trieste, 1 t. 26
Sydney, 10 12
Borax—
Trieste, 5 c. £5
Genoa, 13 11
Valparaiso, 9 6
Yokohama, 10 t. 5 2 q. 159
Melbourne, 1 14
Christiania, 1 2 33
Hamburg, 2 19 46
Sydney, 2 1 1 35
Calcium Chloride—
New York, 20 t. 13 c. 3 q. £42
Carbolic Acid—
Odessa, 3 c. 1 q. £12
St. Petersburg, 1 t. 77
Ibrail, 3 8 30
New York, 5 2 140
Hamilton, Ont., 1 5 79
St. Louis, Mo., 13 6 2 780
Caustic Soda—
Adelaide, 30 dms.
Alexandria, 89
Alicante, 40
Amsterdam, 56
Antwerp, 40
Barcelona, 460 220 pks.
Batavia, 11
Bilbao, 30
Bombay, 21
Bourgas, 5
Brindisi, 20
Brisbane, 112
Calcutta, 20
Cartagena, N.G. 18
Christiania, 26
Demerara, 5
Fairwater, 65
Galatz, 90
Gefle, 31
Genoa, 83
Guaymas, 150
Hamburg, 69
Hong Kong, 35
Ibrail, 70
Jewitt City, 50
Louisville, 100
Malaga, 29
Malta, 18
Manaos, 12
Maracaibo, 10
Melbourne, 90
M. Video, 150
Nagasaki, 100
Naples, 52
N. Orleans, 50
New York, 225
Panama, 90
Paranagua, 32
Paysandu, 50
Philadelphia, 100
Piræus, 63
Pt. Natal, 3
Progresso, 25
Rio de Janeiro, 6
Rio G. Do Sul, 50
Rotterdam, 32
St. Petersburg, 30
Salaverry, 10
Santos, 35
Seville, 80 27 brls.
Sfax, 5
Sourabaya, 40
Stettin, 70
Sydney, 5
Talcahuano, 160
Toronto, 75
Trieste, 15
Venice, 33
Wellington, 28
Chemicals *(otherwise undescribed)*
Bordeaux, 3 cks. £12
Rio de Janeiro, 1 t. 9 c. 150
Braila, 1 7 1 q. 48
M. Video, 20 15 1 53
Montreal, 6 8 31
Alexandretta, 2 63
Calcutta, 209
" 3 12 129
Valparaiso, 2 7
Philadelphia, 13 9 401
China Clay—
Bordeaux, 100 bgs.
Boston, 1,640 250
Calcutta, 760
Lisbon, 130
Montreal, 600
Rio de Janeiro, 65
Citric Acid—
Piræus, 4 c. £22
Cadiz, 1 6
Odessa, 5 kgs. 28
Coal Products—
Aniline Colours
Boston, 6 kgs.
New York, 29 cs.
Santos, 1 ck.
Aniline Salts
Boston, 50 cs.
Genoa, 18 brls.
Creosote Oil
Bordeaux, 250 brls.
Lisbon, 350
Pitch
Bilbao, 40 brls.
Bourgas, 40
Tar
Galatz, 30 brls.
Shanghai, 8 dms.
Sherbro, 30 kgs.
Copper Sulphate—
Christiania, 2 t. 3 q. £32
Algiers, 4 1 c. 66
Tampico, 4 3
Philadelphia, 3 1 46
Odessa, 3 4 48
Palermo, 5 80

Galatz, 10 8
Singapore, 11 7
Constantinople, 60 969
Trieste, 20 1 333
Melbourne, 5 85
Rouen, 29 14 474
Marseilles, 49 13 1 821
Venice, 20 9 314
Oporto, 12 18 2 200
Vigo, 9 3 8
Rotterdam, 50 4 3 764
Antwerp, 4 18 74
Danzig, 3 18 3 60
Lisbon, 32 4 472
Leghorn, 69 4 1,088
Nantes, 161 3 2,582
Ghent, 6 8 2 101
Genoa, 141 1 3 2,219
Naples, 156 15 2,433
Bordeaux, 317 16 3 5,112

Disinfectants—
Rangoon, 60 galls. £10
Melbourne, 2 t. 14 c. 2 q. 15
Calcutta, 10 1 126

Disinfectants and Sheep Dip—
Sydney, N.S.W., 25 t. 9 c. 2 q. £308

Dried Blood—
Las Palmas, 5 t. £36

Hypophosphite of Soda—
Lisbon, 10 brls.

Lead Acetate—
Vera Cruz, 4 c. £8

Magnesia—
Paris, 139 cs.

Magnesium Chloride—
Tokio, 1 t. 19 c. £5

Magnesium Sulphate—
Rio de Janeiro, 10 kgs.
St. Petersburg, 10 cks.
Montreal, 3 t. £57

Manganese Borate—
St. Petersburg, 1 t. 5 c. £68

Manure—
Colombo, 1 t. £7
Antwerp, 5 20
Rosario, 1 2 c. 30
St. Nazaire, 5 96
N Orleans, 250 428
Las Palmas, 4 15 40
Rouen, 6 14 35

Paint—
Antwerp, 13 cks. 8 kgs. 1 hmpr.
Beyrout, 33
Bombay, 60 dms.
Cadiz, 30
Cartagena, N.G., 74
Esquimalt, 10
Gibraltar, 11
Hamburg, 33 6 cs.
Iquique, 16
Malta, 8
Panama, 12 23 pks.
Pelotas, 5
Pt. Said, 6
St. John's, Nfd. 26
St. Nazaire, 87
Valparaiso, 50 30

Painters' Colours—
Barranquilla, 25 cks.
Cienfuegos, 85 pks.
Corfu, 3
Eten, 44
Ghent, 5
Kentville, 45 cs.
Madras, 5
Nantes, 1
Para, 51
Pt. Natal, 24
Smyrna, 3
Talcahuano, 62 50 kgs.

Paraffin Wax—
Alexandria, 6 bgs.
Constantinople, 6 cs.
Fiume, 15
Palermo, 5

Phosphorus—
Tampico, 10 c. £105

Picric Acid—
N. Orleans, 10 t. 3 c. 2 q. £1038

Potash—
M. Video, 17 c. 2 q. £14

Potash Salts—
Tampico, 5 t. £467

Potassium Bichromate—
Copenhagen, 8 c. £15
Montreal, 5 t. 252
Alexandretta, 1 9 1 q. 51
Tripoli, 9 3 15
Sydney, 5 175
Constantinople, 16 3 29

Potassium Carbonate—
New York, 29 t. 2 c. £522

Potassium Chlorate—
Oporto, 10 c. £14
Rostock, 1 t. 1 2 q. 30
Sydney, 1 28
Naples, 15 24
Christiania, 2 70
Lisbon, 5 141
Gothenburg, 4 123
Yokohama, 5 134
Shanghai, 7 207
Hiogo, 42 10 1,266
Montreal, 186 5 5,627

Potassium Oxalate—
Genoa. 8 c. 1 q. £18

Potassium Prussiate—
Santos, 16 c. 2 q. £86
Vera Cruz, 4 cks. 63
Genoa, 2 t. 2 102

Potassium Stannate—
Bombay, 1 t. 4 c. 3 q. £69

Salt—
Adelaide, 20 t.
Antwerp, 155
Baltimore, 470
Barbadoes, 200
Boston, 300
B. Ayres, 65
Calcutta, 2,566 6 c.
Cape Town, 25 cs.
Chittagong, 2,947
Charlotte Town, P.E.I., 500
Christiania, 15 150
Colombo, 2
Conakry, 20
Freemantle, 20
Ghent, 150
Hamburg, 200
Kingston, 20
Lagos, 25
Levaka, 7
Monrovia, 1
Montreal, 471
Para, 675
Paspebiac, 80
Porto Alegre, 50
Quebec, 1,797 6
Rangoon, 2,066
Rio de Janeiro, 100
Rotterdam, 204
San Francisco, 536
Sherbro, 15
Sundsvall, 30 16
Sydney, 284 12
Trinidad, 9 14
Winnebah, 7 10

Salt Cake—
Baltimore, 115 t. 9 c. £171
Delagoa Bay, 20 1 50
Lisbon, 70 113
Antwerp, 59 62

Saltpetre—
Para, 10 c £9

Sheep Dip—
B. Ayres, 8 t. 18 c. 2 q. £250
Calcutta, 2 16 2 63
Natal, 5 cs. 25
Perth, 1 1 45

Soap—
Accra, 375 bxs.
Akassa, 72 dms.
Alexandria, 75 cs. 22 brls.
Algoa Bay, 1,004
Appam, 185
Axim, 220
Barbadoes, 500
Batavia, 1,000
Beira, 53
Bombay, 1,070 55
Bonny, 100
B. Ayres, 1 5 cks.
Cabenda, 10
Calcutta, 244
C. C. Castle, 55
Christiania, 210
Colombo, 10
Conakry, 300
Copenhagen, 34
Beyrout, 100
Demerara, 975
Drewin, 20
Gibraltar, 100
Karachi, 500
Kingston, 2,666
Lagos, 1,454
Las Palmas, 810
Launsanne, 140
Lisbon, 1
Macassar, 100
Madeira, 4
Malta, 40
Manaos, 430
Menado, 1,000
Montego Bay, 2
Montreal, 815
Opobo, 2,120
Para, 1
Petit Goave, 75 bdls.
Prevesa, 5
Rangoon, 450
Rio de Janeiro, 1
Rotterdam, 361
St. Kitts, 80
Salonica, 50
San Juan, 750
Sherbro, 45
Singapore, 760
Sierra Leone, 100
Surinam, 100
Sydney, 8,500
Tientsin. 100
Valparaiso, 1
Zurich, 260

Soda—
Corunna, 2 cs.
Mollendo, 1 ck.

Soda Alkali—
Catania, 10 brls.
Genoa, 15 cks.
Leghorn, 19
Melbourne, 53
Messina, 17
Naples, 20
Sourabaya, 30
Panama, 50

Soda Ash—
Antwerp, 1,300 bgs.
Barcelona, 10 cks.
Boksburg, 120 kgs.
Boston, 32 tcs. 47
B. Ayres, 129
Cheribon, 10
Christiania, 350 bgs.
Copenhagen, 120
Fairwater, 506
Fiume, 200
Genoa, 150
Hamburg, 7
Helsingborg, 60
Hiogo, 986
Johannesburg, 80 kgs.
Kingston, 12
Konigsberg, 80 bgs.
M. Video, 120 brls.
Montreal, 55 tcs.
New York, 160 74 57
Philadelphia, 1,740 37
Rio de Janeiro, 60 pks. 70
Rio Grande Do Sul, 190
Rotterdam, 300 bgs.
Samarang, 20
Sourabaya, 42
Sydney, 306
Toronto, 80
Venice, 75

Soda Crystals—
Alexandria, 50 brls.
Bombay, 140 kgs.
B. Ayres, 102
Constantinople, 100
Leghorn, 50 cks.
Madras, 45
Messina, 8 cs.
Montreal { 250, 120 bgs.
Philadelphia, 280 brls.
St. Nazaire, 50
Valparaiso, 100

Sodium Bicarbonate—
Adelaide, 50 bgs.
Alicante, 75 kgs.
Algiers, 30
Antwerp, 55 21 pks.
Batavia, 10
Bombay, 120
Bourgas, 22
Brisbane, 310 9 cks.
Calcutta, 695
Catania, 50
Charkaw, 210
Christiania, 55 pks.
Corunna, 21
Copenhagen, 2 brls.
Fairwater, 100
Galatz, 20 cks.
Gutujewsky, 300
Gibraltar, 8
Halifax, 100 dms.
Hamburg, 25
Havre, 10
Johannesburg, 40
Kingston, 63
Madras, { 140, 10 bgs. 10 cks.
Marseilles, 143 pks.
Melbourne, 20 kgs.
Montreal, 230
Patras, 30
Pelotas, 30 bgs.
Riga, 200 kgs.
Rouen, 55
Stamboul, 10
Sydney, 460 bgs. 18
Townsville, 100 kgs.
Trinidad, 40
Valparaiso, 100
Venice, 23
Vera Cruz, 40

Sodium Carbonate—
New York, 56 brls.

Sodium Chlorate—
Gutujewsky, 100 kgs.
Montreal, 150
Rotterdam, 34

Sodium Silicate—
Monastier, 50 brls.

Sodium Sulphate—
Lisbon, 20 brls.
Moss, 600 t.

Starch—
Conakry, 4 cs.
Nantes, 4 hds.

Sulphur—
Para, 10 c.
Madeira, 1
Iquitos, 19 3 q
Drammen, 50 t.
Vera Cruz, 2
Natal, 5 8
Pernambuco, 1 14 1
Antwerp, 5

Sulphuric Acid—
Halifax, 2 t. 15 c.

Superphosphates—
St. Nazaire, 250 t. 1 c.
Nantes, 29 5 3 q.
Barcelona, 20 1
Valencia, 259 11 3

Tartaric Acid—
Vera Cruz, 2 kgs.

Tin Crystals—
Montreal, 2 t.
Santos, 3 c.

Varnish—
Barcelona, 7 cks.
B. Ayres, 16 cs. 3 dms.
Genoa, 6
Talcahuano, 3

White Lead—
Piræus, 2 cks.
St. John's, N'fd., 10 pns.

Zinc Chloride—
Piræus, 4 t. 3 c.

MANCHESTER.

Week ending May 11th.

Ammonium Chloride—
Beyrout, 5 brls.

Aniline Colours—
Germany, 15 kgs. 1 cs.

Aniline Oil—
Belgium, 1 dm.
Germany, 12

Aniline Salts—
Germany, 10 pns. 5 brls.

Anthracene—
Germany, 44 cks.

Asbestos—
Bombay, 2 cs.

Benzine—
Tunis, 3 brls.

Benzol—
Christiania, 2 cks.

Caustic Soda—
Bombay, 20 dms.

Chemicals *(otherwise undescribed)*
Berlin, { 3 cks. 2 kgs.
Rotterdam, { 6, 2 cks.

Dyestuffs—
Myrabolams
Christiania, 50 bgs.
Naphthol
Belgium, 16 cks.
Germany, 4
Naphthylamine
Germany, 5 cks.

Gypsum—
Alexandria, 151 brls.

Paint—
Jaffa, 7 cks. 1 cs.

Colours—
3 brls.
Wax—
100 cs.
90 brls.
4,135 c.
848 t.
icarbonate—
20 kgs.
aphthionate—
30 cks.
15
10 brls.
20 dms.
ne—
1 brl.
ride—
5 cks. 6 brls.

HULL.

ending May 7th.

11 cks.
3
s, 23
75
8
10 cks.
2
s *(otherwise undescribed)*
n, 215 cks.
2 cs. 10 pks.
4 50 brls.
1 2 cs.
s, { 6 4 366 slbs. 15 pks.
en, 10 1
g, 1 100
s, 1 10
2 240
14
g, 10
s, 10 120
12 bgs.
1 ck.
2 kgs.
2 cks.
2
16
25
d Oil—
n, 1,554 c.
850
174
s, 34
en, 34
299
s, 8
1,246
s, 697
498
301
400
25 brls.
(otherwise undescribed)
g, 4 cks.
s, 24
1 cs.
Oil—
87 c.
105
s, 510
en, 70
34
s, 7
35
39
3,028 bgs.
White—
50 bgs.
8 cks.
4 cks
Colours—
n, 6 cks.
{ 25 4 cs. 14 dms. 71 pks.
s, 40
9
25
3

Christiania, { 4 44 4 dms.
Copenhagen, 6
Drontheim, { 1 2 pks. 20 dms.
Dunkirk, 4
Ghent, 4 5 brls. 34
Helsingfors, 27 24
Hamburg, { 180 kgs. 1 cs. 11 cks.
Rotterdam, 82 kgs. 100
Stavanger, 1 ck.
Stockholm, 12 1
Venice, 10
Pitch—
Antwerp, 310 t.
Dunkirk, 120
Hamburg, 10
Helsingfors, 125 cks.
Soap—
Amsterdam, 115 bxs.
Drontheim, 2 cs.
Soda—
Abo, 1 ck.
Tallow—
Abo, 39 cks.
Riga, 30 brls.
Stockholm, 12
Tar—
Amsterdam, 6 cks. 12 brls.
Antwerp, 10
Abo, 6
Copenhagen, 5
Drontheim, 3
Helsingfors, 10
Hamburg, 40
Rafso, 150
Stettin, 15
Turpentine—
Antwerp, 1 dm.
Varnish—
Antwerp, 2 cs. 2 dms.
Christiansand, 1
Copenhagen, 1 ck. 1
Helsingfors, 1
Hamburg, 10 brls.
Harlingen, 3
Rotterdam, 6 cs.
Waste Salt—
Amsterdam, 20 brls.

GLASGOW.

Week ending May 12th.

Alum—
Constantinople, £32
Sydney, 21
Alum Cake—
Newcastle, 4 t. 6 c.
Ammonium Carbonate—
Gothenburg, £28
Ammonium Sulphate—
Amsterdam, 40 t.
Asbestos—
Calcutta, £117 15s.
Benzine—
France, £397
Bleaching Powder—
Melbourne, £41
Calcutta, 3 t. 3 c.
Sydney, 3 2
Boracic Acid—
Sydney, £25
Borax—
Algoa Bay, £20
Natal, 84
Amsterdam, 52
Rotterdam, 23
Sydney, £23 15s.
Caustic Soda—
M. Video, 9 t. 2¾ c.
Coal Products—
Coal Tar
Transvaal, £22 10s.
Boston, £50
Creosote
France, £3,870
Naphthaline
Hamburg, 128 t. 19 c.
Pitch
Amsterdam, 252 t.
France, £28
Hamburg, 24 10 c.
Tar
Hamburg, 50 t. 7 c.
Nova Scotia, £75
Rotterdam, 3 12
Dyestuffs—
Aniline Dyes
Kankinara, £42
Dyewood
Gothenburg, £20

Shumac Extract
Boston, £38
Epsom Salts—
Bombay, £63 10s.
Fish Oil—
Calcutta, £435
Italy, 884
Gelatine—
U.S.A., £261
Grease Oil—
Pietermaritzburgh, £45 11s.
Hydrochloric Acid—
Bombay, £64
Indigo (Artificial)—
Brisbane, £33
Iron Oxide—
Calcutta, £20
Lead Acetate—
Bombay, £89
Lead Nitrate—
Canada, 2 t. 12¾ c.
Linseed Oil—
Canada, 8 t. 6¼ c.
Kingston, 6 3¾
Litharge—
Bombay, £33
Logwood Extract—
Victoria, £126 12s.
Manganese—
Antwerp, £52
Rotterdam, 6 t.
Manganese Oxide—
U.S.A., £57
Manure—
Italy, 9 t. 7 c.
Paint—
Constantinople, £47 10s
Painters' Colours—
Bombay, £65
Pietermaritzburgh, £92 17s.
Brisbane, £78
St. John's, N'fld., £51 19s.
Adelaide, £38
Calcutta, 786
Melbourne, 67
U.S.A., 40
Paraffin Wax—
Amsterdam, £35
Italy, 645
Potassium Bichromate—
Amsterdam, 10 t.
Antwerp, £207
Bombay, 132
Gothenburg, £38 10s.
Italy, £707
Potassium Chlorate—
Sydney, £175
Potassium Cyanide—
Melbourne, £475
Sydney, 290
Potassium Salts—
Mexico City, 6 t. 2 c.
Rosin—
Calcutta, £80
Soda Crystals—
St. John's, N'fld., 12½ c.
Sulphuric Acid—
Calcutta, £40
Sodium Bichromate—
Amsterdam, 12 c.
Antwerp, 4 t. 7¼
Bombay, 1 7¼
Gothenburg, 16½
Sodium Nitrate—
Canada, 2 t. 9¼ c.
Tallow—
Rotterdam, 11 t. 6 c.

TYNE.

Week ending May 7th.

Alkali—
Christiania, 3 t. 2 c.
Rotterdam, 8 8
Ammonium Carbonate—
Elsinore, 30 cks.
Anthracene—
Rotterdam, 35 t. 2 c.
Antimony—
Rotterdam, 8 c.
Arsenic—
Barcelona, 3 t. 6 c.
Barium Binoxide—
Rotterdam, 5 t. 8 c.

Barytes—
Antwerp, 2 t.
Bleaching Powder—
Antwerp, 45 t. 13 c.
Christiania, 6 9
Rotterdam, 28 1
Copenhagen, 13
Caustic Soda—
Aarhuus, 2 t. 12 c.
Barcelona, 72 16
Copenhagen, 11 6
Rotterdam, 43 10
Stockholm, 12 7
Tampico, 400
Venice, 10 3
Chemicals *(otherwise undescribed)*
Kalmar, 99 t. 19 c.
Litharge—
Antwerp, 1 t. 2 c.
Copenhagen, 2 13
Stockholm, 15
Magnesia—
Barcelona, 10 t. 17 c.
Hamburg, 15
Rotterdam, 14 lbs.
Paint—
Antwerp, 2 t. 9 c.
Bergen, 1 1
Copenhagen, 2 10
St. Nazaire, 1 2
Paraffin Wax—
Tampico, 10 t. 2 c.
Phosphorus—
Barcelona, 1 t. 9 c.
Soda—
Christiania, 7 t. 7 c.
Elsinore, 11 15
Rotterdam, 15 2
Soda Ash—
Rotterdam, 3 t. 3 c.
Stockholm, 101 12
Sodium Silicate—
Barcelona, 10 t. 1 c.
Sodium Sulphate—
Aarhuus, 2 t.
Stockholm, 10
White Lead—
Stockholm, 5 t. 12 c.

GOOLE.

Week ending May 4th.

Alkali—
Rotterdam, 1 ck.
Chemicals *(otherwise undescribed)*
Amsterdam, 20 cks. 1 cs.
Rotterdam, 20 dms.
Coal Products *(otherwise undes.)—*
Antwerp, 200 cks.
Ghent, 7
Rotterdam, 7
Colours—
Amsterdam, 2 cks.
Boulogne, 1 tin
Ghent, 1 ck.
Manure—
Antwerp, 250 bgs.
Calais, 103
Ghent, 294
Pitch—
Antwerp, 944 t.
Dunkirk, 159
Soap—
Antwerp, 12 cs.

GRIMSBY.

Week ending May 7th.

Alkali—
Hamburg, 10 cs.
Port au Prince, 209 dms.
Chemicals *(otherwise undescribed)*
Akanesi, 17 cs.
Dieppe, 4 cks.
Rotterdam, 85 dms
Coal Products *(otherwise undes.)—*
Dieppe, { 27 brls. 56 cks. 1 cs.
Hamburg, 1 6 pks.
Colours—
Antwerp, 1 ck.
Hamburg, 2
Port au Prince, 7 cs.
Rotterdam, 1
Pitch—
Akanesi, 1 ck.

PRICES CURRENT.

WEDNESDAY, MAY 18TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
" Glacial	"		39/-	
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¼
Oxalic	nett "	0	0	3¼
Phosphoric, 1750°	"	0	0	11¾
Picric	"	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	2
Arsenic, white powdered	nett per ton	17	15	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	0	0
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	17	10	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	9	5	0
" " (grey) Hull	"	9	5	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt "	"	0	0	5
Antimony	per ton	36	0	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	7	0	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6	to	65/-
Bleaching Powder, 35 %	nett "	5	2	6
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	"	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	0
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	0
" 50/90 "	"	0	1	1
Carbolic Acid (crude 60°)	per gallon	0	2	0
" (crystallised 40°)	per lb.	0	0	7
" (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	4
Crude Naphtha 30 % @ 120° C.	"	0	0	5
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	"	0	19	6
Solvent Naphtha, 90 % at 160°	per gallon	0	1	3
Copper	per ton	51	5	0
" Sulphate	"	16	5	0
" Oxide (copper scales)	"	46	0	0
Glycerine (crude)	"	24	0	0
" (distilled S.G. 1250°)	"	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	15	2	6
" Litharge Flake (ex ship)	"	17	10	0
" Acetate (white ")	"	26	0	0
" " brown ")	"	17	10	0
" Carbonate (white lead) pure	"	17	0	0
" *Nitrate*		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	17	6
" " (grey) (ex ship	"	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	"	17	10	0
" Borate	per cwt.	2	5	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	6
" " Miscible, 60° O.P	"	0	4	1½
Oils:—				
Cotton-seed	per ton	17	5	0
Linseed	"	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
" (red)	"	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
" Carbonate, 90% (ex ship)	per ton	15	15	0
" Chlorate	per lb.	0	0	3¼
" Cyanide, 98%	"	0	1	3
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	0	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (refined)	per cwt.	1	1	6
" Permanganate	per cwt.	3	2	6
" Prussiate Yellow	per lb.	0	0	6½
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % do.)	"	8	15	0
Silver (metal)	per oz.	0	2	2½
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton f.o.r. w'ks.	4	15	0
" " (Caustic Soda-ash) 48 %	" " f.o.r. w'ks.	4	5	0
" " (Carb. Soda-ash) 48%	" " f.o.r. w'ks.	4	0	0
" " (Alkali) 58 %	" " f.o.r. w'ks.	4	2	6
" " (Soda Crystals)	" " f.o.r. w'ks.	2	5	0
" Acetate (ex-ship)	"	11	5	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	3¼
" Borate (Borax)	net, per ton.	12	10	0
" Bichromate	" per lb.	0	0	3
" Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton 10 ton lots		8	5	0
" " (74 % Caustic Soda) " " " 10 ton lots		8	0	0
" " (70 % Caustic Soda) " " " 10 ton lots		7	2	6
" " (60 % Caustic Soda) " " " 10 ton lots		6	2	6
" " (pure liquor 90° Tw.) " " " 10 ton lots		3	15	0
" " 77/78 % powdered (99 % hydrate)	"	12	0	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
" Nitrite, 98 %	per ton	25	10	0
" Phosphate	"	9	10	0
" Prussiate	per lb.	0	0	5¼
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	19	6
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6⅛
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	"	6	3	9
" Brimstone: Best Quality	"	4	15	0
Superphosphate of Lime (26%)	"	2	10	0
Tallow	"	22	10	0
Tin Crystals	per lb.	0	0	5
" English Ingots	per ton	89	5	0
Zinc (Spelter)	"	19	5	0
" Chloride (solution, 100° Tw.)	"	6	0	0
" Sulphate, Crystal	"	6	5	0

THE

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AND

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E ADVERTISEMENTS.

TENDER.

COUNTY BOROUGH OF OLDHAM.

IE Gas Works Committee invite Tenders for the Tar and Ammoniacal Liquor to be produced at their different gas stations for d of one or more years, commencing 1st July next.
yearly make of Tar is about 7,200 tons, and of Ammoniacal Liquor about 00 gallons.
iculars and forms of Tender can be obtained on application to Mr. Arthur w, Gas and Water Offices, Oldham, to whom Tenders are to be sent on or Tuesday, June 7, 1898.

A. NICHOLSON,
Town Clerk.

ham, May 23, 1898.

R SALE.—One or Two Railway Tank Trucks or Sulphuric Acid, in good condition.—"A.B.," c/o *Chemical Trade Journal* 32, Blackfriars-street, Manchester.

Notices.

communications for the *Chemical Trade Journal* should be ssed, and Cheques and Post Office Orders made payable to—
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mmunications for the Editor, if intended for insertion in the t week's issue, should reach the office not later than **Tuesday ning.**

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aid Advertisements of Situations Vacant, Premises on Sale or To be Let aneous Wants, and Specific Articles for Sale by Private Contract are l in the *Chemical Trade Journal* at the following rates:—

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rtisements of Situations Wanted are inserted at one-half the rates when prepaid viz.—

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e Advertisements, Announcements in the Directory Columns, and all sements not prepaid, are charged at the Tariff Rates, which will be for- on application.

ertisements intended for insertion in the current week's issue reach the office by **Thursday morning** at the latest.

CURRENT TOPICS.

CHEMICAL FINANCE.

THE chemical industries take a prominent place in the industrial section of the stock and share markets, but it is not often that as many as five important chemical prospectuses see daylight in one week, yet this has been the case this week.

The prospectuses have reference to "classical" firms in the heavy chemical trade, the dyewood and extract industry, and also a new product which has yet to earn its laurels. In all, the five companies invite the public to subscribe close on a million sterling.

As regards familiarity, perhaps Messrs. Chance and Hunt come first with an issue of £120,000. 4 per cent. debentures. The share capital of the company is £280,000., all of which is held in cumulative preference shares and ordinary shares by the vendors.

The debentures are secured by a first mortgage to trustees for the debenture-holders of the freehold and leasehold property of the company, and by a floating charge on the undertaking and general assets of the company, including uncalled capital (if any) for the time being. They are redeemable at the option of the company on or after December 31, 1918, at £102., or before that date at £105, six months' notice being required in either case, and if the debentures at any time become payable, owing to the voluntary winding up of the company, they will be redeemable at the like price of £105.

The British Dyewood and Chemical Company has a capital of £570,000., of which 22,000 ordinary £10. shares are taken by the vendors in part payment of the purchase money, while subscriptions were asked for 35,000 cumulative preference (5 per cent.) £10. shares. The vendors include four well-known firms—viz., Messrs. E. D. Milnes and Bro., established 1810. Works—Lumn Mills, Bury, with offices at Bury and Manchester. (In so far only as relates to their business of importers of dyewoods and manufacturers of extracts for dyeing, printing, tanning, and drysalters, and chemical manufacturers.) Mucklow and Co., established 1842. Works—Elton Fold Works and Hinds Mill, Bury, and Albyn Works, Glasgow, with offices at Bury, Manchester, Liverpool, and Glasgow. John Dawson and Co., established 1852. Works—Eglinton Dyewood Mills, Alloa. Offices at Alloa and Glasgow. Wm. R. Scott and Co., Carntyne Dyewood Mills, Parkhead, Glasgow, successors to the business established in 1883 in these works.

The Hunt element, which is associated with Chance Bros., is also closely connected with the Anglo-Norwegian Kieselguhr Co. This Company has been formed to acquire in perpetuity upwards of 100 lakes and waterfalls in South Norway, which lakes are known to contain immense deposits of infusorial earth, otherwise known as "Kieselguhr" or "Fossil Meal." There will also be transferred to the Company the benefit of options to purchase on the terms therein

named upwards of 250 more lakes which have been obtained with a view to securing a pratical monopoly. The capital is £100,000. in £1. shares of which 50,000 were offered for subscription, and 25,000 taken on account of purchase money by the vendor, who is W. Cooper, of Coton Villa, Stafford. Alderman E. Hunt, J.P., and W. Hunt, of Wednesbury, are two out of the four directors, the vendor joining after allotment.

Volenite, Limited, though a small Company as regards capital (£80,000. in £1. shares), enjoys the distinction of already having its shares at 5 to 5½ premium. They were not offered to the public. It is proposed at once to erect the necessary plant and machinery in or near London for carrying on the new manufacture, in the meantime utilising the existing works at Myddleton-street, and in order to insure a continuous supply of the oil needed in the manufacturing department (for which purpose only oil obtained in accordance with the Stanley process, as the directors are advised, is suitable) the works of Gorleston have been acquired.

The last of the five is the Kalantaroff Oil Co., of Baku. The capital is £50,000., in 50,000 shares of £1. each, of which £30,000. will be allotted to the vendor, Mr. J. W. Hughes, and £15,000. has been issued to provide working capital.

This company is formed to acquire and work the leasehold property of Kalantaroff, in the district of Sabunchi, in the oil field of Baku, having an area of about four acres. It lies near the centre of a productive and famous oil field, and is in the vicinity of wells giving a large production. On its boundaries are properties having productive wells belonging to the well-known firms of Messrs. Nobels, and Messrs. Rothschilds.

LEAD POISONING AND NEW RULES.

The deputation which waited on the Home Secretary recently, has been more fortunate than the majority of deputations, for already two experts have been deputed to visit the potteries (vide p. 363). In Drs. Oliver and Thorpe we have two good men, who, while alive to the dangers of lead poisoning, are also aware of the fact that the remedy of this undoubted evil does not lie in the mere making of rules and regulations, but in arousing those engaged in this industry to a sense of their own responsibilities. The responsibility of the employer is great, but when he has provided dining rooms, baths and respirators, he can do no more. Let us hope the employés will show a greater desire for cleanliness than is generally the case at present.

With all due regard for the gallantry and esteem which it is only right should be conferred upon the gentler sex, we are bound to admit that we are not sorry to learn that the Home Secretary is opposed to the appointment of special lady inspectors for this industry. Ladies seldom—very seldom—have a sufficient sense of proportion to make good inspectors. As a rule, their judgment lacks the modulating influence which the early study of Euclid exercises upon the sterner sex. The latter take Euclid seriously before they have finished the first Book. The ladies—well, Euclid was, presumably, a man, and they take his work as *him* not as *it*. The new rules are to contain provision for:—(1) the exclusion of children and young persons under a certain age (though he was not prepared to go as high as the age of 18), from certain specified dangerous processes, such as dipping; (2) for the periodical medical examination of women and young persons, so as to insure that re-employment should not be allowed in the case of persons certified to be unfit; (3) better arrangements for washing and meals; (4) more stringent provisions against the possibility of inhalation of dust, and for securing proper ventilation; and (5) for the inclusion amongst the dangerous processes of certain additional processes not now included.

THE DETERIORATION OF PAPER.

An interesting and valuable report on this subject prepared by committee of the Society of Arts, is published in the *Journal* of society for May. The report refers at the outset to the changes w the paper-making industry has undergone during the present cent the enormously increased production, which has entailed the introdu of new fibrous materials, and the advancement in the ar paper making, in which department it would be difficult imagine more perfect adjustment of means to the one end, than which have been evolved to meet the modern demand for paper i its varieties. The question of the deterioration of papers, the r proceeds to state, is in a somewhat nebulous position; on the one h it is well known that papers have come down to us from the M Ages in a perfect condition of preservation; on the other, ther many instances of the total destruction of books produced within recent years. The consideration of the question of paper as nor produced and the examination of a number of books in different s of deterioration lead to the conclusion that there are two tendenci deterioratian—disintegration and discoloration, which are ind dent effects, but may be concurrent, notably so in papers conta mechanical wood-pulp. Actual disintegration was apparent in p of all grades as the result of chemical change of the fibres thems Discoloration might be said also to affect all papers more or less the evidence obtained, warrants the general conclusion that dis ation of ordinary cellulose papers (as distinguished from those conta mechanical wood-pulp) under usual conditions of storage is propor to the amount of rosin they contain, or more generally to the and the conditions employed for fixing it in the ordinary proc engine sizing. The practical conclusions of the committee fro evidence obtainable are (1) That book paper should be sized w *minimum* quantity of rosin; (2) that the presence of starch is obje able; (3) that care must be taken that paper should contain a *mini* of chlorides; (4) that 10 per cent. of total mineral constituents i extreme limit for papers for publications of permanent value; a a close and well-compacted sheet is especially necessary for pa papers. Finally, the report gives a classification of papers accord composition and recommends that for book papers required for pu tions of permanent value not less than 70 per cent. of cotton, fl hemp should be used, not more than 2 per cent. of rosin, and not than 10 per cent. total mineral matter.

THE ESTIMATION OF CAUSTIC ALKALI.

An interesting contribution to the methods of estimating caust carbonated alkali has been published in the *Zeit. f. A Chemie.*, by Messrs. P. Dobriner and W. Schrauz, who state tha methods may be used for the estimation of the hydrate. The alka may be determined before and after the elimination of the carb by chloride of barium, or the total alkalinity may be determined same time as the carbonic acid. In a series of comparative e ments we found that, according to the first method, the proporti carbonate of soda present appeared to be from 1 to 2 per cent. h than the actual amount, and, naturally, the proportion of caustic would appear to be lower by the same quantity. We have show this error is due to the use of toughened folded filter-papers, for ing the alkaline solutions treated by chloride of barium. These p appear to absorb notable quantities of alkali. But if we use ord filter-papers this error disappears, and the two methods give cordant results. It is best to let the precipitated carbonate of b settle thoroughly, and to use a definite known quantity of the liquid for the determination of the caustic alkali. Results of suff accuracy can be obtained by the following method:—

To 2·65 grms. of caustic soda dissolved in 50 cc. of water phenolphthalein, and titrate with normal sulphuric acid until th colour disappears. Then add 3 cc. more of the normal acid, and for five minutes to drive off the carbonic acid; then titrate the of acid by normal soda.

If a be the number of cc. of normal acid used in the first titr and b the number of cc. of normal soda used in the second tit (after driving off the carbonic acid), then the proportion of c soda present will be $2\ (2a-b)$ per cent. Na_2CO_3, correspondi $NaHO$ and $4\ (b-a)$ per cent. Na_2CO_3.

It is well known that this method is based on the fact that, i first titration, the whole of the caustic alkali is neutralised, an the carbonate transformed into bi-carbonate. This reactio served as the starting point for a large number of methods fo estimation of caustic alkalis in presence of the carbonate; but methods only give exact results when the quantity of carbonate p is very small.

Lunge recommends titrating first with phenolphthalein as ind until decolouration takes place, and then to continue with m orange as indicator. Those chemists who do not like the methyl-orange as an indicator will find the method we propos convenient.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Improvements in Gypsum. W. R. Johnson and G. Nichols. 10,658. May 10.
Preventing the Solution of Zinc in Alloys. A. K. Huntingdon and R. T. Preston. 10,671. May 10.
Refrigerating Apparatus. W. J. Napier, C. Sealy, and B. Malcolm. 10,673. May 10.
Distilling, etc., Liquids. E. Theisen. 10,693. May 10.
Gas Valves. H. Simon. 10,746. May 11.
Preventing Boiler Incrustation. L. Lewis. 10,759. May 11.
Filters. H. A. Desrumaux. 10,775. May 11.
Purifying Water. F. W. Golby. 10,812. May 11.
Vegetable Glues and Gelatines. F. Hepburn. 10,814. May 11.
Producing Zinc and Chlorine. W. A. Harper and J. L. F. Vogel. 10,823. May 12.
Sulphur Compounds of Mineral Oils. L. O. Helmers. 10,875. May 12.
Freezing Apparatus. L. Seeger. 10,882. May 12.
Leather Substitutes. J. Hall. 10,999. May 13.
Precipitating Gold and Silver from Cyanide Solutions. H. L. Sulman. 11,004. May 13.
Filtering Water. A. Puech. 11,049. May 14.
Electro-deposition of Zinc. Cowper-Coles Galvanising Syndicate and S. O. Cowper-Coles. 11,051. May 14.
Zinc, and Copper Sulphate by Electrolysis. H. H. Lake. 10,068. May 14.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

A Method and Apparatus for Separating Dust from Blast Furnace Gases. B. H. Thwaite, 29, Gt. George-street, Westminster, and F. L. Gardner, 32, Old Jewry, London. Eng. Pat. 6,837. March 21, 1898.

A barbed wire is suspended in the "downcomer" from the furnace, the upper end being insulated, and connected to a source of electricity capable of supplying high-tension currents. The open end of the jacket round the "downcomer" is provided with a water seal. On the passage of the high-tension currents the dust is separated from the furnace gases, and settles, being collected in a pan-shaped receptacle, which constitutes the water seal, while the dust-free gases pass up and away through the annular space between the jacket and the "downcomer." Instead of a water seal, a double-valved receptacle may be used. There are three figures.

Improvements in Apparatus for Treating Fats and Oils. C. G. Hepburn, of Hepburn and Sponden, Sydney, N.S.W. Eng. Pat. 30,684. December 28, 1897.

The process simply consists in drawing a current of heated air through a spray of melted fat or oil, which is delivered from a distributor so as to fall into a collecting tray at the bottom of the apparatus. The chief feature is the construction of the apparatus itself. A vertical cylinder is surrounded with a steam coil, which in turn is encased in a jacket perforated at the top so as to admit air, while the cylinder is provided with perforations round the periphery, near the bottom. A head-piece is fitted to the top of the cylinder, and is either connected to an exhauster or fitted with a fan. The vertical shaft which carries the fan carries a return-edged saucer a little lower down. The saucer is made of perforated metal, and throws the oil by centrifugal force on to a distributor composed of a number of concentric cylinders, standing edgeways. From these the oil falls in a spray through the current of warmed air constantly being aspirated by the fan, and collects in the bottom of the cylinder, which is W-shaped. The oil is drawn off from the inverted apex of the two cone-like troughs thus formed. The air should be passed through a drying box before entering the jacket, or an additional casing containing steam coils may be added for this purpose. There are four figures.

Improved Process and Apparatus for Freezing Meat, Alimentary Products, and other Substances. H. Rouat, 66, Quai Jemmapes, Paris. Eng. Pat. 5,378. March 4, 1898.

A tank is described in which the articles to be frozen are entirely immersed in the refrigerating liquid. Meat, for instance, is placed under a solution of sea salt. The liquid is kept circulating over the cooling coils and round the articles. The salt does not penetrate after the surface is frozen. When the meat, etc, is frozen through, it is removed and packed in insulated cases. In this way the articles can be transported long distances without further provision for refrigeration.

Manufacture of New Iron Compounds, and their Application to the Preparation of Leather. J. E. Chevallot, 8, Rue Bérenger, Nanterre, France. Eng. Pat. 14,052. June 9, 1897. (Under Internat. Convention December 8, 1896.)

Sesqui-sulphates of iron are used instead of persulphate, for tanning leather, the former producing a soft, flexible, and hygroscopic leather which cannot be obtained from the persulphate. As an example the following salts may be cited, their formulæ being: $Fe_8O_4 4SO_3$; $Fe_4O_5 5SO_3$, and $Fe_5O_6 6SO_3$. The first is prepared by oxidising ferrous sulphate with bichromate of potash and acid, thus:—

$$9FeSO_4 7H_2O + 7H_2SO_4 + K_2Cr_2O_7 = 3(Fe_8O_4 4SO_3) + Cr_2O_3 3SO_3 + K_2SO_4 + 7H_2O.$$

By increasing the equivalents of ferrous sulphate and acid the other products are obtained. Permanganates can be used instead of bichromates. A little sulphocyanide is added to give a drab colour. Directions are given for producing tanning baths containing any desired salt. Thus, for the intermediate product containing Fe_4O_5 the unhaired hides are treated from 12 to 96 hours in a bath made of 100 litres water, containing 30 kilos of copperas, 6·75 kilos vitriol, 2·64 bichromate of potash, and 0·045 kilo of potassium sulphocyanide.

Improvements in the Treatment of Gutta-percha and like Substances. W. Ramsay, University College, Gower-street, London. Eng. Pat. 6,344. March 15th, 1898.

The crude material is cut into pieces and extracted with toluol. The extract is separated from the insoluble portions by straining, and the mixed gums (which constitute "gutta-percha") precipitated with acetone. The gums are removed by filter pressing, and the solvents recovered by distillation from the filtrate. The gums are then heated for twelve hours in closed vessels, with a 5% solution of hydrochloric acid (or other polymeriser) to about 180° or 200° C. They are then macerated in the usual way, and are ready for manufacturing purposes.

Improvements in Acid Proof and Electric Insulating Compositions. W. Morrison, Montclair, New Jersey, U.S.A. Eng. Pat. 9,290. April 12, 1897.

About equal quantities of pitch and asphaltum are melted together and a very little gutta-percha added. When thoroughly mixed, as much asbestos fibre is added as will give the composition the consistency of putty. The material is then spread out on a hot plate, and a tablespoonful of fine sulphur sprinkled over it. This is kneaded in for ten minutes or until all swelling ceases. It is finally pounded and rammed until a well-mixed and homogeneous mass results. These operations are all conducted at about 150° F.

ANSWERS TO CORRESPONDENTS.

B.M.—Many thanks for the notification.
H E.I.—The other will be sent next week.
L.V. (Paris)—Our East Coast figure and that for which you ask are the same for all practical purposes, in the same way that West Coast is Liverpool, though not actually specified.

ACTION OF CEMENT ON IRON.—According to the American Society of Chemical Engineers it has been noted that wherever a mixed lime and cement mortar comes in contract with the iron and steel work of suspension bridges, &c., corrosion takes place. It would be interesting to learn if a similar action has been noted by engineers in this country.

THE SUPPLY OF WATER GAS.—Last week, Professor Vivian B. Lewes, of the Royal Naval College, read a paper before the Society of Arts, on "The Past, Present, and Future of Water-gas." He said that though known in the latter half of the eighteenth century, it was not till 1875 that water-gas became a practical success. He also described a new process, invented by Herr Dellwik, by which he estimated that the cost for making water-gas would be reduced by one-half. The gas produced by this process would produce power in gas-engines at one-fourth the cost of steam-power. Dealing with the poisonous properties of water-gas, Professor Lewes said carburetted water-gas contained about 80 per cent. of carbon monoxide, which was one of the most virulent gaseous poisons, and on that account it should not be supplied in towns by itself, but only mixed with not less than its own volume of ordinary coal-gas, which mixture would contain about 17 per cent. of carbon monoxide. When the air of a room contained 0·05 per cent. of carbon monoxide the effect upon human beings became appreciable. Gas escaping from an ordinary burner into the bedroom would, in about four hours time, give 0·03 per cent. of gas in the air, which would give 0·05 per cent. of carbon monoxide if the gas contained 17 per cent of the poison. Therefore it should be clearly understood that the gas supplied to towns should not contain more than 17 per cent. of carbon monoxide.

Reports of Companies.

MESSRS. C. J. AND J. FIELD, LTD.

THE Directors in their report for the year ended March 31st last, state that the profits made during the year show an increase over those of the preceding year, and, after providing for repairs and depreciation of plant and machinery, amount to £25,817. After deducting interest paid and accrued on the debentures, income-tax, managing director's salary, directors, trustees, and auditors' fees, and expenses of secretary's department, there remains a net profit of £20,759., to which has to be added £1,028. brought forward from the last account, making a disposal balance of £21,787. Out of this sum the board recommends payment of the dividends on the seven per cent. preference shares and on the six per cent. preference shares; payment of a dividend of 5 per cent. and 1 per cent. bonus on the ordinary shares, free of income-tax; writing £7,000. off goodwill, trade marks, &c., ; placing £2,000 to reserve fund; carrying forward £1,413. to next account.

SANTA RITA NITRATE COMPANY, LTD.

The annual ninth general meeting was held last week at Winchester-house. Mr. Henry W. Lowe, who presided, said that, notwithstanding the deplorable condition of the nitrate industry during the period under review, they were able to report, as the result of their trading, a profit of £8,127. After meeting the administration expenses they were left with funds sufficient to enable the payment of a dividend of about six per cent., but the board were of opinion that it would not be prudent to make any such distribution at present. They had a small debenture debt, entailing interest and amortization, which had to be provided for, and, although they would have to face that for a few years longer, it was very satisfactory to know that they were thereby paying off the entire cost of their newly-acquired property at Carolina. The past year has been full of disappointments in the nitrate trade, the want of cohesion among producers having brought prices down to a very low point. He felt certain that an agreement for the restriction of the output must be arrived at before long, because it was impossible to believe that those few producers who were said to be antagonistic to a combination would not recognise that it was better for them to make a profit of 30s. or 40s. a ton on a slightly reduced quantity than 10s a ton on a larger production. In spite of all the untoward circumstances the position of this company was satisfactory. They had sold the greater portion of their anticipated produce for the current year at prices beyond those ruling to-day. They therefore saw their way to meet their debenture obligations for the present year, and they were, moreover, led to hope that at no distant date they might be able to declare an interim dividend. After stating that the information received with regard to their reserves of caliche were encouraging, he moved the adoption of the report. Mr. J. M. Clarke seconded, and it was agreed to.

THE SMELTING CORPORATION, LIMITED.

The ordinary general meeting was held last week at the Cannon-street Hotel, the Right Hon. William Lidderdale presiding. The chairman observed that the resolutions he was about to move were mainly formal, and were the outcome of suggestions on the part of the Stock Exchange authorities. He explained the proposed alterations in some detail, remarking that in each case they met with the entire approval of the directors. He concluded by proposing the resolutions set out in the notice calling the meeting. Sir Gerald Fitzgerald seconded the resolutions, which were unanimously agreed to. Proceeding, the chairman said they were all aware that the company had been in existence but a short time. It had been formed for the purpose of dealing with a new process which the directors believed had overcome the difficulty experienced for many years in regard to the treatment of refractory sulphide ores, which existed in large quantities in Australia and other countries. The main works, which they were now erecting, were to be at Manchester; the plans for these were ready, and tenders were being received for portions of the works. The directors had felt, in regard to the new process, that as they necessarily had had little experience to guide them it was highly important that they should be secure at each step taken towards the completion of the works, and that every care should be taken in their construction. The company had secured a considerable piece of land on the Manchester Ship Canal which would afford them considerable advantages, not merely in getting the ores to the works, but also in sending away the products, and the arrangements which were being made were calculated to facilitate economical working to the greatest degree. Naturally, as yet they had little important progress to report, and some months would elapse before the works were completed. However, he might tell them that so far as the directors had proceeded, and from all they had learned, they were strengthened in their confidence that the company had obtained possession of a most valuable patent, and that the process was one which would fulfil the expectations raised about it. He had no details to place before them, but he could assure them that the company was progressing as fast as possible consistent with prudence, and that their confidence in the process, the basis for the formation of the company, was entirely unabated. In reply to the comments of a shareholder as to the Swansea works, the chairman explained that the greater advantages to be secured at Manchester would compensate the company for concentrating the works at the latter place. In six months' time, he thought, a considerable portion of the works at Manchester would be completed, and unless the present circumstances were materially changed he saw no reason why the operations of the company should not then begin to be profitable.

NEW JULIA NITRATE COMPANY, LTD.

An extraordinary general meeting was held on Monday at Winchester House. Mr. T. A. Thackthwaite, who presided, said the shareholders had been called together, at the request of Mr. Moutrie, to consider the scheme of reconstruction which that gentleman had formulated. He then moved resolutions to the effect that it was desirable to reconstruct the company, and that with that object the company should be wound up voluntarily with Mr. W. F. Mills as liquidator; that the latter should be authorised to consent to the registration of a new company to be called the Julia Nitrate Company (Limited); and that the draft agreement submitted to the meeting, and expressed to be made between this company and its liquidator of the one part and the Julia Nitrate Company (Limited) of the other part, be approved. Mr. A. Moutrie, in seconding the resolutions, said the question they really had to decide was whether it was advisable or not to risk another 1s. per share in order to save their present 10s. shares. No doubt they all felt sore at the past history of the company, and considered they had made mistakes in going into previous reconstructions, but he must ask them not to let that prejudice their mind in regard to the present scheme. They possessed proved nitrate grounds of considerable extent, they had an oficina of modern construction which had been erected at enormous cost, and they also had a railway which had been built with their own money. It might, perhaps, be argued that the nitrate industry was not in such a condition as to encourage them to provide fresh capital to carry on the company's business. He would point out, however, that, instead of the nitrate industry being a declining one, it was a progressive one, as was evident from the annual sales of nitrate of soda. In the event of the scheme being successfully carried through, he was in a position to promise that the new company should have the use of the Germania well at a yearly rental not exceeding £300. The acquisition of this well he believed to be of vital importance for the proper working of their property. He was also able to announce that the Taltal Railway Company had given an undertaking that, in the event of the reconstruction going through, they would waive their present claim for "shorts" against this company, amounting to £1,700., and also any future claims that might arise under the same heading. He was pleased to say that Mr. John Abbott, of the Lautaro Nitrate Company, had expressed his willingness to join the board of the new company. A discussion followed, in the course of which several shareholders pressed for further information on various matters, and Mr. Parsons moved and Mr. Jay seconded the adjournment of the meeting for a month, and the appointment of a small committee to confer with Mr. Moutrie respecting the scheme. Mr. Moutrie remarked that if the scheme were rejected the company would have to go into liquidation, and the result would be that the shareholders would lose their money. He was unable to accept the motion for adjournment, but must ask them to come to a decision at that meeting. On a vote being taken the motion for adjournment was carried by 25 votes to 19. It was afterwards decided that the adjournment should be for three weeks, instead of a month, and Mr. F. S. Weldon, Mr. Parsons, and Mr. Vere Smith were elected members of the committee.

San Donato Nitrate Company, Ltd.—The directors' report for the 12 months ended December 31st, states that the net loss has been £2,960. The balance carried forward from last account was £10,120., and there is thus a balance at credit of profit and loss account of £7,160. to be carried forward to next account. The directors regret the unsatisfactory results shown, due to the oficina not having produced any nitrate during the 12 months.

Liebig's Extract of Meat Company, Ltd.—The report for 1897 shows a balance of £122,376.; an interim dividend of 5 per cent. was paid in February, and the directors now propose to pay a dividend of 15 per cent., making, with the interim dividend, 20 per cent. for the year, tax free, to carry £5,000. to reserve fund and £2,000. to employés' provident fund and to deduct £8,248. for directors' percentages, leaving £7,128. to carry forward.

Parliamentary Jottings.

THE SALT DUTY ON THE INDIAN FRONTIER.

In the House of Commons last week, Lord G. Hamilton informed Mr. J. H. Lewis that on the 11th February last he stated, in reply to a question, that the Kohat salt duty was raised in 1883 to 8 annas and recently to 32 annas per Kohat maund, which was equivalent to 26 annas per Indian maund for the reasons given in the correspondence. It appeared from that correspondence that, in the opinion of the Government of India, the increased duty was put forward by the Afridis as a pretext after they had already committed themselves to hostilities. The correspondence also showed that, as he had already twice stated, he proposed to await a report on the subject, which he would receive when trade had been re-established for some little time.

THE SUGAR CONFERENCE.

On Monday, in answer to Sir C. Dilke (Gloucester, Forest of Dean), Mr. Curzon said,—It is the hope of the Belgian Government that the Conference will meet as announced on June 7th. I am not in a position to give to-day the names of all the British delegates, but they will be announced at an early date.

LEAD POISONING IN THE POTTERIES.

Mr. Coghill (Stoke-upon-Trent) asked the Secretary of State for the Home Department if he contemplated the appointment of an additional inspector or sub-inspector for the North Staffordshire potteries district, whose duties should be confined entirely to the Potteries, and who should reside permanently in the district; and whether, if he made such an appointment, he would select a person for the post who had a practical knowledge of the pottery trade, and who was thoroughly conversant with the conditions under which it was carried on.

Sir M. W. Ridley (Blackpool).—The district inspector, who resides in the Potteries, is already by long experience thoroughly conversant with the conditions under which the several processes of the trade are carried on, with the dangers incurred, and with the structural appliances and administrative measures best adapted for prevention of injury to health in each branch. I have given him the assistance of an additional junior inspector, also resident in the district, which will enable him to give full attention to the Pottery works and to the enforcement of the special rules.

Mr. Woodall (Hanley) asked the right hon. gentleman whether he was now prepared to name the scientific experts to whom he proposed to confide the promised inquiry into the deleterious consequences attributed to the use of lead in the glazing and decoration of pottery, the terms of reference; and also whether inquiries had been made of what had been done by Continental Governments in a similar direction, and, if so, with what result.

Sir M. W. Ridley.—I have appointed two experts; one of them a chemist, Dr. Thorpe, the head of the Government Laboratory; the other a medical man, Dr. Oliver, who has served already on several Dangerous Trades Committees. I have left the scope of the inquiry to some extent to the discretion of the experts, who will be able to follow up any line of inquiry which seems likely to lead to useful results. The main point, however, will be to ascertain the extent to which various materials recommended as harmless substitutes for carbonate of lead are free from the dangers attending the latter. The suitability of these materials for the purposes of the trade is mainly a question for the manufacturers, but it is possible that on this point also the experts may render some assistance. Inquiries have been addressed to the chief foreign Governments on the subject mentioned, but their replies have not yet been received.

CHANGE OF ADDRESS.—*The Barrett Manufacturing Co.*, of Philadelphia, informs us that in future all communications having reference to the chemical side of their business should be addressed to the "Chemical Department," 1,205, Land Title Building, Philadelphia, Pa.

THE MANCHESTER RIVERS COMMITTEE.—A meeting of the Rivers Committee of the Manchester City Council was held on Monday for the purpose of taking a ballot of the members for the Deputy Chairmanship, in succession to Mr. J. Saxon, resigned. Mr. Dreyfus was elected to fill the vacancy. Mr. Dreyfus was the Chairman of the Purifying Works Sub-Committee and it is understood that he now retires from this position. Mr. Grimshaw was elected to take the place of Mr. Saxon on the Mersey and Irwell Joint Committee. The question of the experts sanctioned at the last meeting of the Council was raised on the minutes of the Effluent Sub-committee, and after their names had been submitted and approved the necessary negotiations were left with Sir Bosdin T. Leech, the Chairman. It will be remembered that the Council authorised the Committee to obtain the help and advice of experts on the chemical, biological, and engineering phases of various schemes for treating the sewage at Davyhulme.

Legal Intelligence.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice Bigham, sitting for Mr. Justice Byrne.)

BOILEAU *v.* HEATH.

THIS action, which was heard on Monday, was brought by Sir F. G. Manningham Boileau and others, the trustees of the Norwich Union Fund of the Norwich Union Life Insurance Society, and that Society against Messrs. R. Heath, J. Heath, and A. H. Heath, the lessees of Clough Hall Ironworks and Collieries, in the county of Stafford, for an injunction to restrain the defendants from dealing with certain heaps or mounds of mineral refuse lying on the surface of the land leased by the defendants as aforesaid. The defendants claimed the mounds either as chattels which they had bought from the plaintiffs or as part of the mines which they were entitled to work under their lease. The plaintiffs were the owners of the Clough Hall property, and for some years before and up to December, 1892, they had leased it to the Kidsgrove Steel, Iron, and Coal Company (Limited), which got into difficulties and was wound up. On December 16, 1892, there being then rent in arrear, the plaintiffs obtained an order of the Court for re-entry, and took possession on that date, and so the old lease to the company terminated. The mounds comprised about 100,000 tons of tap-cinder from the puddling furnaces. When the plaintiff's re-entered, the mounds were on the ground, and apparently no claim to them was made by the out-going company. The plaintiffs, having re-entered, kept the mines going on their own account for a few weeks, and in February, 1893, entered into an agreement for a lease of the premises to the defendants. By this agreement it was provided that the term should be for 42 years at a *minimum* rent of £2,000. a year, that the royalties should be the same as those payable under the Kidsgrove lease, with the addition of 1d. per ton for slack, and that the lease should include all mines from the surface down to what was called "the silver mine." It was, however, expressly provided that the defendants should not be bound to work the ironworks, it being expressed to be their intention to remove and dispose of the plant and machinery connected therewith. By an agreement of even date the plaintiffs sold to the defendants the plant and machinery then on the premises for £25,000. The money was duly paid, and the defendants entered into possession on February 1, 1893. They had since worked the mines, but only for coal, and therefore they had not added to the mounds of tap-cinder. The lease was not executed until August 28, 1897. Soon after the defendants had entered into possession the plaintiffs put forward a claim for nearly £3,000. for tools, stores, and other similar chattels on the premises when the defendants entered, and which it was contended did not pass under the sale of "plant and machinery," and cross-claims were made by the defendants. The claims formed the subject of a settlement, the terms of which were reduced into writing, and provided, *inter alia*, that the defendants should pay the plaintiffs £1,000. in full and final settlement of all their claims "to stores and all other effects upon the premises." It was contended that the mounds passed to the defendants under this settlement, but his lordship held that they did not, and that under the circumstances the words "stores and all other effects" only covered the items in the claim then made and any other items of a similar kind which might have been overlooked. The other contentions of the defendants were also dealt with in his lordship's judgment. His lordship accordingly declared that the defendants were not entitled to the tap-cinder, or "puddlers' taps," as they are sometimes called, and were not entitled to remove them; that the plaintiffs were entitled to them; and that the plaintiffs must have an injunction against the defendants to restrain them from removing or selling the taps, and an inquiry as to taps already removed, and payment of the value thereof.

CHANCERY OF LANCASHIRE.

(Before Vice-Chancellor Hall.)

PACIFIC COAST BORAX COMPANY *v.* COX AND OTHERS.

This was a case of considerable interest to brokers and warehouse keepers. The plaintiff company, who carry on business at San Francisco, sold 1,200 tons of borate of lime in Liverpool through the defendants, Cox Brothers, who are large produce brokers in Liverpool, one of the clauses of the contract being that the goods were not to be re-exported to America. The borate was stored in the warehouses of the Liverpool Warehousing Company and of the Liverpool and Manchester Warehousing Company. The plaintiffs had reason to believe that the bulk of it had been sold for re-export to America, and as Messrs. Cox declined to disclose the names of their purchasers the plaintiffs asked for the order of the Court restraining further dealing

with the goods pending the trial of the action. Mr. Rotch appeared in support of the motion, Mr. Roger Laurence for the Liverpool and Manchester Warehousing Company, who consented, and Mr. T. R. Hughes for the Liverpool Warehousing Company and Messrs. Cox. He said he could not consent on behalf of the Company, as by their special act they were bound to deliver to whomsoever presented their delivery warrants. After some discussion as to the rights of the parties, the Vice-chancellor held that all he could do was to grant an order restraining defendants from further dealing with any part of the material for which warrants had not been issued, all other questions to stand over to the trial.

SALFORD SEWAGE CASE.

THE CORPORATION FINED.

THE question of the disposal of the sewage of the borough of Salford was again the subject of legal proceedings on Monday, when the Salford Corporation were brought before His Honour Judge Parry, at the Salford County Court, for failing to carry out an order of the court made in July last year.—Mr. Sutton represented the Mersey and Irwell Joint Committee, and Mr. L. C. Evans, Deputy Town-clerk, appeared for the Corporation.—Mr. Sutton gave an historical sketch of the difficulties which had arisen between the Rivers Committee and the Corporation, and between the Corporation and the Local Government Board, the facts of which have previously been reported. He detailed the several applications which had been made to His Honour during the last three years. In July, 1897, His Honour said that if by any means the scheme then submitted failed to be completed within 12 months there would be no other course open than that of inflicting penalties. The Corporation promised to get rid of the sludge, a work which they said could be accomplished in a fortnight, to borrow the sum of £50,000., which was the estimated cost of the works, and to let all the contracts and complete the same. They had not fulfilled one of those promises. The sludge had scarcely been decreased; he was not aware that the Corporation had endeavoured to raise the money required, and not a contract had been let for the filtration areas. It was 10 months ago now since those promises were made, and the Corporation were causing a worse pollution now than then. All that had been done by the Corporation was to make changes in their present works which would put them in a position to let some of the contracts.

Mr. L. C. Evans said the Corporation were doing all they could to carry out their scheme. Some of the contracts had been let, and some of the money required had been borrowed. There had been several causes which had contributed to delay. The manager of the sewage works had been ill, a number of men in the borough engineer's office had left, and a considerable time was spent in considering a suggestion from the Local Government Board that Salford should join Manchester in its culvert scheme.

His Honour said that that class of excuse could not be listened to. In July last year he left the Court expecting the Corporation to carry out their scheme as promised, but the result had been most disappointing.

Mr. Evans said they were borrowing the money as it was required. Some £3,000. had up to now been borrowed, to pay for such work as was actually being carried out.

His Honour: All that in ten months; if you go on at that rate it will take you about twenty years to complete your contracts.

Mr. Evans said they had had an extra staff at work preparing the drawings for the work, and by July 15th next, they would be ready for the contractors to proceed thoroughly with the work. Tenders for the contracts had been advertised for on May 15th.

His Honour: Exactly; that was when the Mersey and Irwell Joint Committee moved against you. It looks as if the Corporation will not carry out any scheme until they are under penalties to do so. The culvert scheme or any other scheme would be an excuse. It casts discredit on the Corporation that they should fail to carry out their promises.

Mr. Corbett, borough engineer, gave evidence as to the work done, and the difficulties which had been encountered.

His Honour said it was almost an insult to his common sense to tell him about the Corporation's endeavour to get assistance in the engineer's office when the extra men were not got until after the Mersey and Irwell Committee had decided to again bring the matter before the court. On the 22nd July the Corporation promised to carry through the scheme; and the next day, according to their own showing, they commenced to consider another scheme. It was absurd.

Mr. Corbett, in answer to Mr. Evans, said that if the tenders advertised for were accepted, workmen would be at work in two months from now, on all branches. The sludge was to be removed to sea. They had a steamer which could make five journeys a week, and take 600 tons of sludge per trip. He admitted that all the sludge could be taken in 15 weeks, and that at present the sewage effluent was going into the canal, as was the case twelve months ago.

Mr. Sutton said the Corporation advertised for certain tenders, but not for the ones they agreed to do. They had gone back to the five acres filtration area, which was admitted to be inadequate, whereas they made a specific promise to get out a contract for ten acres.

His Honour said he was convinced that no real work had been done by the Corporation until the Rivers Committee moved against them.

Mr. Sutton said he did not apply for penalties now; all he asked was for a peremptory order that from a certain date the Corporation would abstain from pouring any liquid sewage into the river.

Mr. L. C. Evans said that was a very serious order to make on the Corporation.

Mr. Sutton said he believed the Corporation were liable to be mulcted in penalties from November 1st, 1895. He, however, did not apply for such, but merely for an order to abstain from pollution after a certain date, failure to comply with which to carry a penalty of a certain sum per day.

During the adjournment for luncheon Mr. Sutton considered the precise nature of the application he should make on the resumption of the hearing. Mr. Sutton said that on July 22nd last his Honour gave the Corporation eight months in which to get their contracts let. That period expired on March 22nd last. Two months had since passed, for every day of which the Corporation were liable to penalties. He accordingly applied for these penalties to be imposed. The penalties did not exceed £50. a day.

His Honour said he was not blaming the officials of the Corporation for the delay, but there was some power that was preventing them doing their best.

Mr. Evans said he had the Borough Treasurer present, and he could say that within the last few weeks £20,000. had been borrowed.

His Honour: That is, of course, since the Rivers Committee took action. It was not worthy of the traditions of a Corporation of such importance to be dragged into court every month or two in order to let its contracts.

Mr. Evans said he was prepared to give an undertaking that the work would be proceeded with. Would penalties serve any useful purpose?

His Honour: I hope they will.

His Honour, in giving his decision, said the Corporation had for months been refusing to carry out the order of the court. It was desirable, in their own interest, and for the sake of their own dignity, that the Corporation should not be brought there, and should not repeatedly bring forward such flimsy excuses. He would impose a small penalty, but would give the Corporation definitely to understand that they must do their work, and insist on the carrying forward of the contracts in accordance with their promise. He would impose a penalty of two days' fine of £50. each day, but in case laxity was again shown he should impose the maximum penalty per day.

THE TREATMENT OF SEWAGE.

A CONFERENCE on the disposal and treatment of sewage, under the auspices of the Manchester and Salford Sanitary Association, was held on Monday afternoon and evening. Dr. Leech presided.

The Chairman said they had called the conference with a view to securing an interchange of ideas on this vexed question. Some towns had adopted what appeared to be satisfactory arrangements, but still the question was largely one of "What shall we do with our sewage?" Therefore, it was believed that good would come from a conference of experts on the subject. The water-carriage system had been generally resolved upon, but it was still a matter of considerable doubt as to how best to deal with the refuse removed by water. It was of great importance that a proper system should be adopted.

Dr. Charles Porter, medical officer of health for Stockport, introduced the subject before the meeting by reading a paper on "The Public Aspect of the Question." He dealt with the old and existing systems of dealing with excreta. There was more fever from ashpit middens than from water-closets. Statistics were given from various centres illustrative of this fact. The water-carriage system had reduced the death-rate and moderated fevers of various kinds. It was also cleaner and more convenient. The cost of scavenging was likewise less. There were drawbacks, of course, especially in winter time, but this difficulty could be obviated by improved arrangements of the cistern and pipes and the use of salt. Slop water closets were useful where better provision could not be made. The lowest quantity of water for effective flushing was three gallons. Effective plumbing and good ventilation were necessary to secure immunity from disease. Lastly he referred to manufacturing effluents. The fact that many of these waste liquids were highly injurious to bacterial filters was a very important factor in the sewage problem, and if these could not be isolated and treated apart from the general bulk of sewage it became a question how far manufacturers should or could be forced to deal with their effluents before turning them into the sewers under the Rivers Pollution Act. With reference to the degree of sewage effluent purity necessary for public health purposes, he took it that all that was required was that

this effluent should not, when turned into a water-course, undergo a subsequent secondary decomposition and smell offensively. In Lancashire generally the streams into which sewage effluents were turned were not drawn upon as sources of public water supply. A few would contend that, merely for the encouragement of boating, bathing or fishing, manufacturing towns upon which the welfare of the community so largely depended should be put to any unnecessary material expense in regard to sewage purification. It had been asserted by at least one competent chemist that the public health requirement of no secondary decomposition could be fulfilled by an effluent of considerably less purity than that for which Manchester was called upon. If that were so, it would be interesting, from the public health point of view, to learn why this apparently unnecessary degree of purification was required.

Dr. D. B. Hewitt, chairman of the Health Committee of the Cheshire County Council, said it was clear that the use of middens bred zymotic and other diseases. He understood that Dr. Porter considered the standard of purification for the Manchester effluent too high. There were differences of opinion on that point, but whatever the standard was it should be general, and not apply to all towns and places up the river Irwell and not to Manchester. There might be some difficulty in introducing the water-carriage system among the poor and uneducated, but he did not think there would be the same difficulty with the water as with any other system, and he could not conceive that it would be anything like the nuisance from any other system. The idea of making money out of sewage had evaporated.

METHODS OF TREATMENT.

In the evening Dr. D. B. Hewitt introduced the subject of the methods of treatment of sewage, dealing with land and bacterial methods, precipitation, and treatment by filters.

The President said however easy it might be to deal with the sewage of small places, the straits Manchester and Salford were in showed that it was not the same with large towns.

Dr. Hewitt said the subject had been so well thrashed out that there was little to be said that was new. Berlin in 1860 was the most unhealthy city in Europe, and its river one of the most polluted in the world. It had adopted the land treatment of sewage on 18,000 acres of sandy land, and the result had been a great success. Dye-works in Berlin, however, had been removed because their effluent was not such as could be admitted to the sewage farm. Similar treatment of sewage had been adopted in France. Suitable land could not, however, always be obtained, and they had to fall back upon other treatments. Chemical treatment of sewage could only remove a portion of its impurities. Sludge was always a serious item to be considered.

A precipitation scheme might be good enough for a small drainage area, thinly populated, and where the volume of sewage was small, as compared with the volume of the stream, brook, or river into which the effluent was discharged. It might also be regarded as suitable when the effluent was discharged into a river of rapid flow, already polluted by manufacturing and other effluents, or into an estuary, if the flow was limited to the ebb tide and there was sufficient volume of sea water always present at the point of discharge. The lime process, while it had advantages in respect of cost in its favour, had also some drawbacks; it made more sludge, and if the sludge was allowed to remain in the tanks it increased the tendency for suspended organic matter to pass into solution; it rendered the effluent strongly alkaline, and when this alkaline effluent was mixed with water containing carbonic acid this caused a fresh deposit of sludge in the stream, especially if that stream be a canal with a very slow current. Having dealt next with the precipitation by lime and green sulphate of iron, Dr. Hewitt proceeded to deal with the bacterial system. He observed that the Massachusetts State Board of Health in the year 1888 and 1889 made a classical series of experiments on sewage under the direction of a most able staff of experts, consisting of engineers, chemists, and biologists. Their object was "to devise a way to completely oxidise or burn the impurities of an organic nature in sewage, so that only the inorganic dissolved matter and water should remain." Their method was to treat the sewage by intermittent downward filtration. The purification of sewage by intermittent filtration depended upon microbes, oxygen, and time; all other conditions were secondary. The power of any material to purify sewage depended almost entirely upon the ability it possessed to hold the sewage in contact with air. Every filter, however, packed with solid material—be it sand, coke, cinders, broken bricks, or fine coal—had its due ratio of solids, water or sewage capacity, and air capacity, and if either the water or air capacity were interfered with to any great extent the efficiency of the filter would be impaired. In actual practice, however, it had been proved that where a cinder or coke filter fouled from temporary overwork, its power of burning organic matter could be restored by emptying the fluid completely and leaving the air to obtain access to the interstices in the filter. The necessary living organisms gradually and surely were formed in the filter so long as air and organic matter were supplied at the same time and in due proportion, and usually a new filter required some time before it could perform the maximum amount of work. The recent report of the Rivers Committee to the Manchester City Council contained ample refutation of most of the objections to the system, and it pointed to the Barking bacteria beds, at work four years, and Sutton nearly two years, and their own experimental beds for rather more than two years. In the face of recent facts as to bacterial treatment of sewage he did not profess to understand why the Local Government Board demanded the purchase of such a large area of land by the city of Manchester, unless it were that they feared to sanction a scheme for such a wealthy and populous city unless they had ample area for a very complete scheme adequate for the future growth of the city, and that the Local Government Board had a lingering attachment to the old formula that tank effluents must be further treated by filtration through land.

Much work had been done by Salford in experiments on the treatment of sewage, and he regretted that he had not the benefit of Dr. Carter Bell's most valuable reports dealing with those experiments. The bacterial treatment of sewage had proved satisfactory, and he was surprised that Manchester had not increased its bacteria beds, which, after two years' trial, had shown good results, but under the guidance of the three experts whom Manchester had engaged, he believed their efforts would be crowned with success.

Mr. Fowler said the filters in Manchester which had been alluded to by Dr. Hewitt were still working satisfactorily, but the manufacturing refuse of Manchester would require a great deal of careful research.

Mr. W. Thomson said Dr. Hewitt had shown his side of the question in a practical way. There appeared to be two schemes suitable for dealing with Manchester sewage. Should, however, a culvert scheme be adopted and the sewage carried into the Mersey, he did not think the people of Liverpool or Warrington would suffer, as they turned the bulk of their sewage without treatment into the river. There was not land of the quality required for the treatment of Manchester sewage. He was in favour of the bacteria treatment.

Mr. H. Grimshaw (Manchester) said the culvert scheme and the bacteria treatment had been spoken of as alternative schemes, but they were not so, and if by the bacteria treatment they could get a good effluent, a culvert would not be required. He hoped the outcome of the meeting would be that representation would be made to the Local Government Board on the serious objection to land purchase for sewage treament in such non-agricultural districts as Lancashire.

Sir Bosdin T. Leech said the culvert scheme would be finality, but too costly to be adopted. He believed in the ultimate success of the bacteria treatment. Land filtration was no doubt the simplest mode of dealing with sewage, but in Manchester they had not suitable land like Berlin and Paris. The difficulties which Manchester had to cope with were very great; they had so many kinds of sewage, but with three experts engaged and given a little time, he had no doubt ultimate success would be achieved.

Dr. Porter, in reply to a question, said by experiments made at Conway by Dr. Woodhead, there was no accumulation from a sewage effluent where there was a tidal flow.

Mr. Brocklehurst criticised the action of the Local Government Board in the matter of land requirements, and pointed out how it was hanging the other committees round the neck of the Manchester Rivers Committee by stating, when they applied for money, that they could have it when the Rivers Committee had carried out its plans for sewage treatment.

Dr. Hewitt said he was not there that night as a member of the Joint Committee, but as a private individual interested in the treatment of sewage. Sir Henry Roscoe in 1895 and 1896 recommended the bacteria treatment to Manchester. Bacteria destroyed organic matter. That was the whole thing in a nutshell. If sewage was put in land it was by bacteria that it was purified, and if the conditions were not favourable to their life and action putrification was the result. He thought Manchester and Salford had been a little long lingering over the difficulty, but he had confidence in the ability of Manchester and Salford men to overcome it, and could see that they now meant business. So far as the culvert scheme was concerned, he had been content for Parliament to decide it.

NEW POTTERY WORKS AT WALKDEN.—The Bridgewater Trustee, are about to follow the example of the Clifton and Kersley Coal Company, who have established extensive pottery works at Clifton Junctions and commence the manufacture of pottery, tiles, etc., near their Brackley Colliery, Greenheyes, near Walkden. The dirt which is sent out from the Trustees' collieries will be utilised in the manufacture of the pottery, etc. The establishment of this new industry will be the means of providing employment for a considerable number of work-people, and will be heartily welcomed in the Greenheyes district, which is but sparsely populated, the only sources of employment there at present being two collieries—the men employed at which reside principally in Farnworth, Streetgate, Walkden, aud Tyldesley—and a small weaving shed and ironworks. Land is already being inquired after in the neighbourhood by local builders on which to erect cottage property, in view of the opening of the new works.

Trade Notes.

IMPORTANT DECISION IN THE CHEMICAL TRADE.—An important award has been given this week in connection with arbitration proceedings between Messrs. Bowman, Thompson, and Company, Ltd., Northwich, on the one side, and Messrs. Brunner, Mond, and Company and the United Alkali Company on the other, with regard to the increased production of salt at the works of the first named firm. Messrs. Bowman, Thompson, and Company, are under contract to consign all their make of chemicals to the United Alkali Company and Messrs. Brunner, Mond, and Company, but latterly, they have made arrangements to produce salt on a large scale, and this was objected to as coming also within the scope of such arrangement. The matter went to arbitration, with the result that the award has gone in favour of Messrs. Bowman, Thompson, and Company.

FATALITY AT A DYEWORKS.—A terrible fatality occurred at the dyeworks of Messrs. Peter Reid and Sons, Limited, Whit-lane, Pendleton, on Monday. About 6 a.m. Frederick Bates, 29 years of age, of Egerton-street, Pendleton, who was employed by the firm as engineer, was turning the steam on, when the valve burst and blew him into a cistern. He was recovered as soon as possible, and medical aid was summoned. On the arrival, however, of Dr. Fraser, he pronounced life to be extinct.

MESSRS. FUERST BROTHERS.—This firm advises us that they have arranged with the manufacturers, Messrs. J. Hauff and Co., to supply ortol-bisulphite tubes—that is, each tube contains ortol and metabisulphite of potassium, which latter is at times difficult to obtain. They also supply soda cartridges for use with this developer. For the A ortol solution, dissolve the contents of one tube in 20oz. water. For the B soda solution, dissolve the contents of one soda cartridge in 20oz. water (or carb. soda, cryst. 2½oz. and sulphite of sodium 2½oz.) In addition they are also introducing Hauff's toning and fixing cartridges, to make 5oz. solution each, and Hauff's fixing cartridges, to make 8oz. solution each.

THE SACCHARIN CASE.—In the Court of Appeal last week, before the Master of the Rolls and Lord Justices Rigby and Collins, the case of the Saccharin Corporation, Limited *v* Haines, Ward and Co. was heard, an appeal by the defendants from an order of Mr. Justice North, requiring them to make a further and better answer to interrogatories administered to them by the plaintiffs. The action was brought with respect of the alleged infringement of certain letters patent for the manufacture of saccharin, and in the course of the proceedings interrogatories had been administered. The Master of the Rolls, in giving judgment, said he did not think there was reason for disturbing the order which had been made, and the appeal would be dismissed with costs.

HANDBOOK ON EMPLOYERS' LIABILITY.—Messrs. Eyre and Spottiswoode promise shortly a book on the Law of Employers' Liability and Accident Compensation, by Montague Barlow, Barrister-at-Law, Lecturer in Commercial and Industrial Law to the London School of Economics and the Chamber of Commerce. The book, which will be uniform with the Mrs. Tennant's and Mr. Llewelyn Davies' edition of the Factory Acts, will cover the whole area of the existing law, and will explain the rights and liabilities of masters and men under the Common Law, the Employers' Liability Act, and the Accidents Compensation Act of last year. The book is intended especially for the use of masters and employees, and will be as simple and non-technical as possible compatible with accuracy. The new Act will be illustrated by a series of practical examples. A special feature of the book will be a chapter by Miss Margaret Bateson, Honorary Secretary of the Central Bureau for the employment of Women, on the way in which the new Act will affect women engaged in the industries which come within the scope of the measure.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are steady at 1s. to 1s. 1d for 90's, and 1s. 1d. to 1s. 2d. for 50/90's, but the activity of last week has ceased. In carbolic acids and naphthas there is no quotable change, and the market, as a whole, is quiet, in fact, almost dull. This is no doubt due to the season and the advent of Whit-week. Creosote is steady. Anthracene is quoted 4¾d. to 5d. for 30% A, and 4d. for B. Pitch quiet at 21s. 6d. f.o.b. East Coast, and 18s. 6d. West Coast.

Sulphate of ammonia continues firm, and although cover sales have predominated, still consumers have been more in evidence. In the North the demand is likely to be prolonged, but the Sourthern requirements are practically filled. Closing prompt values are:—Beckton, £9. 10s.; London outside makes, £9. 6s. 3d.; Liverpool, £9. 7s. 6 Hull, £9. 5s., and Leith, £9. 7s 6d. In the forward position £9. has been done for October/March delivery.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade there is but little movement and no indicati yet of improvement in values. Bleaching powder and chlorates tinue to offer at low prices. Caustic soda is barely maintained at r quotations. For the latter, spot prices f.o.b Liverpool are:— £8. 5s.; 74%, £8; 70%, £7. 2s. 6d.; 60%, £6. 2s. 6d. per ton. Ammonia alkali is in good request for home trade at £4. 2 bags, f.o.r. makers' works. Soda crystals and bicarbonate are firm meet with a fair inquiry. For Leblanc ash, demand is quiet and are nominal. Chlorate of potash 3¼d. Soda 3¾d. per lb. sulphate of copper, price remains at £16 5s. f.o.b. Saltcake further improved in value and is in strong request at 25s. in bulk, Sulphur steady with a firmer outlook. Nitrate of soda is quoted h for forward delivery. For vitriol and muriatic acids, prices are altered. Potash, caustic and carbonate, are moving freely and are firm—viz., for caustic, 50%, £11. per ton, and 90/92% carb £16. Acetate of soda still in excess of requirements, and offers at to £11. 5s. c.i.f. Acetate of lime slightly easier at: brown £5. 15s. grey £7. 10s. to £7. 15s. Acetic acid is considered firmer in of a proposed combination. All other acetates are quiet, as are wise chemicals generally employed in the textile printing and d trades. For bichromates the prices are steady at 3d. and 3¾d. for and potash respectively. Prussiate of potash slightly easier at per lb. Sulphocyanides in poor request, and prices are unaltered.

REPORT ON MANURE MATERIAL.

Manufacturers report a marked falling off in deliveries of ma indicating that an exceptionally large season is drawing to a c Next season's requirements in phosphatic material are practi covered, and, at the same time, 1898 production of phosphate ro first hands is nearly all sold, though South Carolina rock could p ably be had at about 6½d. per unit, delivered good U.K. ports.

There is nothing reported in River Plate bones, the advanced p necessitated by advanced freights keeping buyers off meant £4. 10s. per ton, ex store Liverpool, has been paid in quantity for India bone meal, and £4. 12s. 6d. per ton is now asked. £4. per ton is the nominal quotation for shipment, but it is doubtful whe much could be had at the price.

Nitrate of soda is firmer, and the spot value of fine quality is 7s. per cwt.

THE METAL MARKETS.

LONDON, WEDNESDAY.—Pig iron easy: Scotch war closed at 46s. 3½d.; Middlesbro', 40s. 4d cash; and hematite, 50s Copper steady: Chili bars, G.O.B.'s and G.M.B.'s, closed at £51. 5s to £51. 10s. 0d. cash, and £51. 7s. 6d. to £51. 12s. 6d. three mo Tin firm. Straits closed at £67. 5s. 0d. to £67. 15s. 0d. cash, £67. 16s. 3d. to £68. 6s. 3d. three months; Australian, £68. 0s English ingots, £70. to £70. 5s. Lead dull: Spanish, £13. 12 to £13. 15s. 0d. English, £14.; Silesian spelter, ordinary, £19. Nickel, 1s. 2½d. Antimony, £35 10s. to £36. 10s. Quicks First hands, £7. 12s. 6d.; second hands, £7. 12s. 0d. *Copper* quiet: Cape, $4\frac{5}{16}$ to $4\frac{7}{16}$; Copiapo, $2\frac{7}{16}$ to $2\frac{9}{16}$; Libiola, 2 2⅝; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, $25\frac{15}{16}$ to 2 Tharsis, 6¼ to 6¾.

GLASGOW, WEDNESDAY.—Market flat, with a good bus Scotch done at 46s. 6d. to 46s. 4d. cash; and 46s. 7d. to 46s. month; buyers, 46s. 3½d cash; sellers, 46s. 4d. Cleveland do 40s. 6d. cash; buyers, 40s. 4d. cash; sellers, 40s. 4½d. Cumbe hematite done at 50s. 8½d. to 50s. 7½d. cash; and 50s. 11½ 50s. 10½d. month; buyers, 50s. 7d. cash; sellers, ½d. Middlesbrough hematite idle.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESD

OILS.—Palm oil is still well held and firm in price. Ther fair demand. Soft oils for May/June have been done at £2 Benin, at £20. 17s. 6d. There is only a limited spot deman olive, £30. to £32. per tun, Spanish. Linseed is quiet, but Liverpool makes in export casks continue to fetch 18s. to 18s. 6d Cottonseed quiet, 17s. to 17s. 6d. cwt. for Liverpool refined. C oil is very steady, good seconds Calcutta being in fair demand at to $3\frac{5}{16}$d. per lb., and first pressure French 3¼d. per lb Tall selling well, especially mutton, with prices advancing. Resin is and in satisfactory demand at full prices. Spirits of turpentine o

moderate request at 27s. cwt., sellers, for spot. Petroleum dearer, and steady at 5⅞d. to 7⅛d. for American, and 5d. per gallon for Russian refined.

CAKES.—The improvement in the weather has had a depressing influence on this market, and the business concluded in all descriptions has been on a very limited scale. For linseed the recent quotations are repeated, viz., £6. 15s. to £7. for American Western on the spot, £8. to £8. 15s. per ton for Liverpool makes, according to brand. American decorticated cottonseed are also nominally quoted as on Friday last for good to choice brands, viz., £5. 17s. 6d to £6. 10s., according to brand, but Liverpool makes have eased slightly, £6. 10s. to £7. 5s. being now quoted for decorticated and £4. 8s. 9d. to £5. 5s. per ton for undecorticated brands, according to make. Egyptian have been neglected, but sellers still ask £4. 2s. 6d. per ton for quay parcels.

COLOURS.—Prices are steady, and practically without change. Ochres: Oxfordshire—common £10., medium £12, best £15.; Derbyshire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., seconds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; French, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red lead unchanged. Venetian red: £6. to £10. Cobalt: Prepared oxide, 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; medium, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

OILS.—The Hull and Barnsley Railway Company appears to be doing as well as anyone here, with perhaps the exception of the millers, with an increase in traffic returns for 19 weeks of £6,774., which is good. Many of the speculators in corn have, by holding too long, lost some of their anticipated profits. The imports for the year as against the same time a year ago have been:——Wheat, 963,006 qrs. against 957,473 qrs.; linseed, 134,438 qrs., against 252,908 qrs.; rapeseed, 31,102qrs. against 43.785 qrs.; cottonseed, 100,004 tons, against 95,206 tons; oilcake, 7,926 tons, against 4,863 tons; olive oil, 2,393 tuns, against 2,166 tuns. 3,500 qrs. of castor seed are due here from Bombay about June 21st. The present price of linseed oil is 16s. 1½d. per cwt. spot naked; forward May/December, 16s. 3d. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil, spot naked, 15s., and to August; forward, Nov./April, 14s. 3d. sellers. Filtered about £1. extra; crude spot, 14s. Resins, spot, are quoted from 5s. 1½d., according to grade. Castor oil remains firm, and the oil extracted here compares favourably against any brought to the market; 3¼d. to 3½d. per lb. first pressure. Cod oils, best qualities very firm; low qualities scarce. Quotations from £18. per ton. Olive oil soap in fair demand from £16. 10s. per ton. Danish butter 90s to 95s; Swedish, 92s.; Dutch, 86s. per cwt.

CAKES.—Feeding stuffs a very quiet demand, but owing to scarcity of seed prices do not come down much. Linseed cakes very quiet, 95% pure, £8. to £8. 2s.6d. Oilcakes (linseed), £6. 17s.6d. to £7. Russians, £7. 7s. 6d. to £7. 10s. Cotton cakes quiet but steady, best makes, spot, £4. 10s. to £4 11s. 3d.; Nov./April £4. 5s.; second qualities, 2s.6d. less. Rape cake, Black Sea, £4. 2s. 6d. Meal, bags included, £3. 12s. 6d. per ton.

PAINTS.—The trade continues well employed, without any change in prices.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

According to accounts there is rather more of inquiry respecting the standard chemicals, particularly as regards forward deliveries. There are no changes in the figures to record. One of the local works has stopped production, pending the settlement of the coal dispute, and a returning of the coal market to a normal position. The advance in sulphate of ammonia has continued, and the quotation to-day is between £9. 7s. 6d. and £9. 10s. prompt, f.o.b. Leith. At least, some of the makers are holding for the higher figure. Nitrate of soda is a shade easier. Mineral oils and paraffins are all firm at the old figures. This is specially the case with the mineral ubricants. Another mineral oil company (making the fourth of the series) has declared results of past year's trading. There is nothing for the ordinary shareholders.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 12s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to £5. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 19s.6d.; borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7. nett, Liverpool; bichromate of potash, 3¼d., nett for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. nett for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 4½d. to 7s. 6d.; sulphate of ammonia, £9. 7s. 6d. to £9. 10s. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33 nett, any port; sulphate of copper, £16. 5s. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¼d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 31,856 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

The chemical market is still quiet, and no change to report in prices. Sulphur continues scarce at £4. 15s. to £5. per ton. Caustic, 76/77% £8. 10s. and 70% £7. 5s. and £7. 10s. per ton. Soda crystals in fair demand at £2. 12s. 6d. per ton, gross weight, locally.

Bleaching powder, softs, £5 10s. per ton, nett: do. hards, £5. 15s per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 5% f.o.b. (Liverpool); pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt unchanged at 9s. 6d. per ton, f.o.b. Tees.

COALS.—The market here continues steady with a good demand for best steam and bunker coals. Coke is also very brisk and in demand for export and local consumption. Best Northumbrian steam, 13s. 6d. to 14s. per ton; second qualities, 12s. 6d. to 13s. per ton; small steam, 4s. 6d. to 5s. per ton; bunker coals, 9s. to 10s. per ton; household coals, 10s. to 11s. per ton; gas coals, 8s. 6d. to 9s. per ton; coke steady, 18s. 6d. to 20s. per ton.

New Companies.

Henry Leake & Son, Ld.—CAPITAL £40,000. in £10. shares. This company has been formed to adopt an agreement with H. A. Leake, and to carry on the business of oil seed crushers and merchants, oilcake manufacturers, oil refiners and makers of artificial manures. The subscribers to the memorandum of association are:—H. A. Leake, West Winch, King's Lynn, seed crusher; Miss E. S. Leake, West Winch, King's Lynn; H. C. Leake, 141, Church Lane, Charlton, Kent, engineer; W. Leake, West Winch, King's Lynn, clerk; Miss M. I. Leake, West Winch, King's Lynn; Miss C. M. Leake, West Winch, King's Lynn; R. C. Coulton, King's Lynn, solicitor. Registered office, Baker Lane, King's Lynn.

Klein Engineering Co., Ltd.—CAPITAL £40,000. in £1. shares (£20,000. pref.) This company has been formed to adopt a certain agreement, and to carry on the business of manufacturers of, and dealers in, engineering specialities, steel converters, engineers, boiler makers, tinsmiths, etc. The subscribers to the memorandum of association are:—E. N. Galloway, Knott Mill Iron Works, Manchester, engineer; C. Rought, 17, Philpott Lane, E.C., engineer; F. Haworth, The Wood, Windermere, colonel; R. Lord, Nelson Mills, Bolton-le-Moors, spinner; W. S. Galloway, 4, Chapel Walks, Manchester, gent; J. Klein, Moorfield, Withington, Manchester, engineer; E. W. Milne, 78, King-street, Manchester, chartered accountant.

Petolite Synd., Ltd.—CAPITAL £60,000. in £1. shares. This company has been formed to acquire patents No. 3,891 and 3,892 of 1897 for the production of "Petolite," to adopt an agreement with C. S. Good, and to carry on the business of petroleum fuel manufacturers, briquette makers, oil refiners, chemists, etc. The subscribers to the memorandum of association are:—C. S. Good, Oak House, Orpington, accountant; C. L. Watchurst, 14, Temple Chambers, E.C., engineer; J. M. Pates, 5, Florence Terrace, Bowes Park, N., accountant; E. M. Eldridge, 34, Kildoran-road, Brixton, S.W., accountant; S. Witherby, 1, Ranelagh Gardens, Fulham, S.W., accountant; W. F. Hutchison, 15, Guilford-street, Russell-square, W.C., planter; A. W. Good, 57, Moorgate-street, E.C., chartered accountant.

Volenite, Ltd.—Capital £80,000. in £1. shares. This company has been formed to acquire the secret process and patent rights for the manufacture of "Volenite," to adopt an agreement with H. Bennett, and to manufacture, sell, and deal in oil, guano, volenite, vulcanite, railway sleepers, road and street paving, mats, railway carriage and other wheels, pulley wheels, brake blocks, carriage panels, electrical switch boards, fuse bases, electric bell bases, insulating material, electric motors, etc. The subscribers to the memorandum of association are:—Lurgan, 21, Lowndes Square, S.W., peer; F. B. Jameson, The Albany, Piccadilly, gent; J. R. Parkington, 6, Devonshire Place, W., major; W. H. Wilson, 36, College Green, Dublin, stockbroker; T. B. C. Hardman, 74, Molesworth-street, Dublin, solicitor; J. K. Rigby, 154, Palmerston Buildings, Old Broad-street, E.C., chartered accountant; H. Fenwick, 95, Vauxhall Bridge road, S.W., secretary.

Scottish Aluminium, Ltd.—Capital £50. in £1. shares. This company has been formed to carry on the business of manufacturers of and dealers in aluminium and any other metal and mineral, and to erect and equip works, warehouses, and offices for the business of the company. The subscribers to the memorandum of association are:—J. Cunninghame, Craigends, Johnstone, Renfrew, ironmaster; A. Lyle, Greenock, shipowner; C. Scott, Greenock, engineer and shipbuilder; T. Carmichael, Greenock, shipbuilder; J. Nicoll, Greenock, accountant; T. Brown, 194, St. Vincent-street, Glasgow, metal merchant; A. Orkney, Greenock, engineer.

IMPORTS OF CHEMICAL PRODUCTS
AT
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 14th.

Acetic Acid—
Holland, 30 pks. Phillipps & Graves
" 149 A. & M. Zimmermann
Germany, 9 Beresford & Co.

Acetone—
France, 3 dms. E. J. Catlin
Germany, 9 pks. L. & I. D. Jt. Co.

Alkali—
France, 60 c. J. Barber & Co.
" 201 P. Hecker & Co.
Belgium, 2,040 R. Waters

Alum—
Holland, 700 pks. Ohlenschlager Brs.

Ammonium Nitrate—
Holland, 65 cks. S. E. Rly. Co.

Arachide Oil—
Holland, 5 pks. H. Persall

Arsenic—
Portugal, £265 Coverley & Westray

Asbestos—
Italy, £12 Girard Brs. & Co.
Germany, 47 Craven & Co
" 196 London Asbestos Co.
" 70 Imperial Asbestos Co.

Barium—
Germany, £37 Deering & Robottom

Barium Chlorate—
France, £53 G. Boor & Co.

Barytes—
E. Indies, 39 pks. Wilkinson, Heywood & Co.
Holland, 200 W. Harrison & Co.
" 40 J. L. Lyon & Co.
" 24 J. Graves
Belgium, 222 J. L. Lyon & Co.
" 191 W. Harrison & Co.
Germany, 118 Wilkinson, Heywood & Co.
Belgium, 88 O'Hara & Hoar
Holland, 25 "

Bleaching Powder—
Belgium, £160 H. Wallace & Co.

Bromide of Iron—
Germany, 15 pks. A. & M. Zimmermann

Bromine—
Germany, 20 pks. A. & M. Zimmermann

Camphor—
Hong Kong, 10 pks. Union L. Co., Ld.
Japan, 56 R. Warner & Co.

Caoutchouc—
Straits, 933 c. E. Boustead & Co.
Germany, 22 Major & Field
N. Zealand, 12 W. C. Bacon & Co.
U. States, 20 W. Balchin, Ld.
P. E. Africa 4 Hale & Son
Rangoon, 113 L. & I. D. Jt. Co.
Germany, 15 Wallace Brs.
France, 86 H. Johnson & Sons
Zanzibar, 90 L. & I. D. Jt. Co.
Rangoon, 38 Lewis & Peat
Madagascar, 10 Procter Brs.
Guatemala, 12 Prop. Bull Wf.

Carbolic Acid—
Germany, 50 pks. J. G. Back

Castor Oil—
France, 16 cks. C. S. Lovell
Italy, 5 A. Laming & Co.
E. Indies, 20 cs. Perkins & Homer

Caustic Potash—
Belgium, £42 Wilkinson, Campbell & Co.
France, 20 pks. Petri Brs.
" 4 J. Knight & Son
Belgium 8 T. Ronaldson & Co.

Chemicals (*otherwise undescribed*)
Germany, £120 L. & I. D. Jt. Co.
" 380 A. & M. Zimmermann
U. States, 1,030 S. C. Jones
France, 52 Mory & Co
Holland, 8 A. & M. Zimmermann
" 142 T. H. Lee
Belgium, 10 T. Palmer
" 18 John Cockerill Line
Germany, 11 J. M. Steel & Co.
Belgium, 140 T. H. Lee
" 10 T. Ronaldson & Co.

Chromium Fluoride—
Holland, £25 R. W. Greeff & Co.

Citric Acid—
Italy, 2 pks. J. Puddy & Co.
Germany, 40 Butler's Wf., Ld.

Cream of Tartar—
France, 10 pks. M. Ashby, Ld.
Holland, 2 Kirkpatrick, Barr, & Co.
France, 2 B. & F. Wf Co.
" 10 C. F. Gerhardt
Portugal, 5 B & F. Wf. Co.
France, 10 W. C. Bacon & Co.
Argentine, 2 G. S. N. Co.

Dyestuffs—
Annatto
Madras, 10 pks. L. & I. D. Jt. Co.
" 19 G. & H Green
E. Indies, 24 Anderson, Weber & Smith
Anthracene
Spain, 561 pks. Burt, Boulton & Co.
Argols
Italy, 384 pks. B. Jacob & Sons
" 88 Thames S. T. & L. Co.
Cochineal
Canaries, 68 pks. Swanston & Co.
" 37 J. Sullivan
" 59 W. M. Smith & Sons
" 90 Hendry & Martin
" 13 Sperling & Williams
" 3 Lewis & Peat
" 5 L. & I. D. Jt. Co.
Cutch
Belgium, 6 pks. T. H. Lee
Rangoon, 380 A. Howden & Co.
Divi Divi
E. Indies, 196 pks. Flack, Chandler & Co.
" 250 Walker, Munsie & Co.
Extracts
France, 24 pks. L. J. Levinstein
U. States, 10 "
Canada, 275 Boutcher, Mortimore & Co
U States, 50 Skilbeck Brs.
France, 118 Bennett S. S. Co.
" 30 T. H. Lee
Gambier
Ceylon, 400 pks. Union L. Co., Ld.
" 793 G. R. Haller, Ld.
Straits, 2,319 E. Boustead & Co.
" 277 Beresford & Co.
Indigo
Madras, 22 chts. J. Owen
" 3 Binny & Co.
" 40 J. W. Cook & Co., Ld.
" 11 H. J. Perlbach & Co
" 15 H Johnson & Sons
Bengal, 21 L. & I. D. Jt. Co.
Colombia, 6 srns. Chalmers, Guthrie & Co.
Madras, 40 chts. L. & I. D. Jt. Co.
" 11 Walker, Munsie & Co.
Bengal, 8 W. J. & H. Thompson
" 37 Parsons & Keith
Madras, 5 Dipnall & Co.
" 1 P. Macfadyen & Co.
" 25 Croysdale & Co.
Logwood
B. Hond'as, 112 t. A. Everingham & Co.
Orchella
U. States, 31 pks. Anderson, Weber & Smith
Tanners' Bark
Tasmania, 3 t. Terry & Co.
Cape, 30 A. & W. Nesbitt
" 51 Boutcher, Mortimore & Co.

Dyestuffs (*otherwise undescribea*)
U. States, 6 pks. R. Davies & Co.

Farina—
Holland, 50 pks. J. Knill & Co.

Fustic—
B. W. I., 10 t. P. Macfadyen & Co.

Glucose—
U. States, 400 pks. 3,850 c. R. G. Hall & Co.
" 600 3,809 L. & Til. Ltge Co.
France, 100 100 Vokins & Co., Ld.
U. States, 500 500 C. F. Webster & Co.
" 250 250 Bennett S. S. Co., Ld.

Glue—
Holland, £21 Phillipps & Graves
France, 44 C. L. Bontin
Germany, 350 Phillipps & Graves
" 30 L. & I. D. Jt Co.
France, 14 Burnett, Brs. & Sons
Sweden, 25 H. Johnson & Sons
" 20 W. E. Bott & Co.
Belgium, 55 T. H. Lee
Canada, 50 W. Wingate & Co.
Germany, 18 Hermann Keller & Co.
U. States, 13 W. Dixon
France, 218 Flageollet & Co.

Infusorial Earth—
Germany, £20 Anglo S. S. Co.
Belgium, 30 W. Harrison & Co.

Litharge—
Germany, 22 pks. Butler's Wf., Ld.
" 7 D. Storer & Sons

Manganese—
Germany, £24 J. Barber & Co.
E. Indies, 1,000 t. Cayzer, Irvine, & Co.

Manure—
Belgium, 260 t. T. H. Lee

Methyl Alcohol—
France, 20 cks. E. J. Catlin
Germany, 10 dms. J. Norrenberg & Co.

Mica—
E. Indies, £3400 W. M. Smith & Sons
Australia, 105 "
Ceylon, 8 M. P. Evans & Co.

Molasses—
U. States, 198 brls. 1,247 c. Wilson & Furness Leyland Line
" 495 3,140 J. Forsey

Ochre—
Holland, 9 pks. Phillipps & Graves
Spain, 117 Silicate Paint Co., Ld.
Italy, 6 A. Laming & Co.
France, 11 Burnett Brs. & Sons
Germany, 4 H. Keller & Co.

Oxalic Acid—
Germany, 4 pks. Butler's Wf., Ld.
Norway, 25 S C. D. Co.

Phosphate of Lime—
France, 105 t. A. Hunter & Co.

Phosphates—
Algeria, 1,280 t. A. Ford & Co.

Pitch—
France, 26 cks. H. Hill & Sons
W. Indies, 9 brls. L. & N.-W. Rly.
Belgium, 12 cks. Poth, Hille & Co.

Plumbago—
Ceylon, 57 brls. Marshall & French
Germany, 43 cks. Pearce, Duff & Co.
Ceylon, 238 brls. J. Thredder, Son, & Co.
" 52 H. Grey, Jr.

Potassium Carbonate—
France, 90 c. J. A. Reid
Germany, 420 J. M. Steel & Co.
" 85 Petri Brs.
" 105 H. Lambert

Potassium Oxalate—
Holland, 20 cks. R. W. Greeff & Co.

Potassium Oxymuriate—
Sweden, 167 pks G. Boor & Co.

Potassium Permanganate—
Holland, £100 Hernu, Peron, & Co.

Pumice Stone—
Italy, 21 t. T. H. Jones

Pyrites—
Pomaron, 976 t. Mason Barry, Ld.

Pyroligneous Acid—
France, £30 Burnett Brs. & Son

Rosin—
Belgium, 100 brls. F. Claydon & Co.
Germany, 26 cks. L. & I. D. Jt. Co.
R'public C'umbia, 4,900 Moore & Hale
U. States, 200 brls. Suter Harmes Comp. Co.
Columbia, 1,300 T. Nickels & Co.
" 500 Thames S. T. & L. Co., Ld.
" 710 Perkins & Homer
" 616 Prod. Brokers' Co., Ld.

Salicylic Acid—
Germany, 5 pks. Butler's Wf., Ld.

Saltpetre—
Germany, 35 pks. P. Hecker & Co.
E. Indies, 5,623 bgs. Lucas & Spencer's Wf.
Belgium, 40 cks. Petri Brs.
Germany, 70 S. E. Rly Co.
" 30 J. Hall & Son

Soda—
Belgium, £5 Becker & Wagner
France, 157 c. Burnett Brs. & Sons

Sodium Bromide—
Holland, £103 Hernu, Peron, & Co.

Sodium Nitrite—
Chili, 2,000 t. Grace Brs.

Sodium Prussiate—
Belgium, 42 pks. Blagden, Waugh, & Co.

Starch—
Belgium, 260 pks. Phillipps & Graves
U. States, 110 Beck & Pollitzer
Holland, 1,531 Little & Johnson
France, 20 W. E. Cole
Germany, 6 Butler's Wf., Ld.
U. States, 400 Bertel Food Co.
Holland, 40 Phillipps & Graves
Belgium, 112 Leach & Co.
" 80 Taylor Brs.
France, 50 J. Barber & Co.
Holland, 20 Carter, Paterson, & Co.
France, 10 L. P. D. Co.
Belgium, 100 J. Harrison
" 140 Becker & Wagner

Stearine—
France, 100 bgs. H. Hill & Sons
" 300 Boor & Co.
Belgium, 63 W. H. Mitchell

Tar—
Germany, 225 brls. W. Beard & Son

Tartaric Acid—
Holland, 26 pks. H. Lorenz
" 19 B. & F. Wf. Co.
" 3 F. C. Devon & Co.
" 31 Kirkpatrick, Barr, & Co.
Belgium, 7 F. C. Devon & Co.

Ultramarine—
Belgium, 20 pks. J. Harrison
Holland, 20 Thames S. T. & L. Co., Ld.
,, 12 J. Barber & Co.
Germany, 4 J. Kitchin, Ltd.
Belgium, 2 W. Harrison & Co.
Holland, 2 Haeffner, Hilpert, & Co.

Varnish—
Germany, 10 pks. Butler's Wf., Ld.
U. States, 17 Williams, Torrey, & Co.
,, 26 Pinchin, Johnson, & Co.
France, 54 Suter Hartmann Comp. Co.
,, 4 Mory & Co.

Waste Salt—
Germany, 5 t. F. & H. Hendricks

White Lead—
Holland, 40 pks. Randall Brs.
Belgium, 18 J. R. Francis & Co.
,, 18 J. L. Lyon & Co.
,, 45 T. & W. Farmiloe, Ld.
Holland, 90 ,,
Germany, 20 A. Zumbeck & Co.
,, 20 Perkins & Homer
Holland, 41 D. Storer & Sons
,, 32 Wilkinson, Heywood & Co.

Wolfram Ore—
Australia, 2 t. H. Bath & Son

Wood Pulp—
Sweden, 400 pks. W. G. Taylor & Co.
,, 320 Alsing & Co., Ld.
Canada, 2,693 Furness, Withy & Co.
Sweden, 272 C. S. Lovell
Holland, 73 Henderson, Craig, & Co.

Zinc Oxide—
Holland, 90 pks. M. Ashby, Ld.
,, 10 R. W. Greeff & Co.
,, 2 Prprs. Dowgate Dk.
,, 10 J. Matton
U. States, 400 M. Ashby, Ltd.

LIVERPOOL.

Week ending May 12th.

Acetic Acid—
Rotterdam, 20 balloons

Alumina Hydrate—
Antwerp, 20 cks.

Barytes—
Rotterdam, 30 cks. 20 bgs.

Bi-Nitro Toluol—
New York, 13 cks. T. Meadows & Co.

Bone Ash—
San Nicolas, 113 bgs. Colonial & S. Am. F. M. Co

Borax—
Mollendo, 1,165 sks. A. S. Henry & Co., Ld.

Castor Oil—
Marseilles, 2 brls. Shaw & Hamilton
Calcutta, 217 cks.

Chemicals (*otherwise undescribed*)
Gijon, 1,250 bgs. W. Pope

Colours—
St. Nazaire, 102 cs.

Cottonseed Oil—
New York, 350 brls.

Cream of Tartar—
Bordeaux, 34 cks.
Oporto, 5

Dyestuffs—
Algarrobilla
Huasco, 1,678 sks.
,, 511 Klop, Kullmuime & Co.
Divi Divi
Curacao, 239 bgs. Leech, Harrison & Co.
Dyewood
New York, 22 t. E. Brownbill & Co
Extracts
Fiume, 585 brls.
Marseilles, 225
Bordeaux, 6 cks.
Fustic
Cartagena, 239 pcs. G. H. Muller
Colon, 2,112
Myrabolams
Bombay, 670 bgs. D. Sassoon & Co.
,, 1,320 E. D. Sassoon & Co.
,, 174 Ralli Brs.
,, 1,668
Shumac
Barcelona, 100 sks.
Turmeric
Calcutta, 8 bgs.
Valonia
Patras, 439 bgs.
Constantinople, 267
,, 2,044 Jivan, Tekeian & Co.

Farina—
Amsterdam, 50 bks.

Glucose—
Baltimore, 500 brls.
New York, 400 L. Sutro & Co.
,, 50 F. W. Simonds & Co.
,, 50 Richards & Gunn

Glue—
Marseilles, 5 cs.
Rouen, 41 cks. Co-op W'sale Society, Ld.
70 cs. 10 bls.
Boston, 29 crts. T. Robinson & Sons

Glycerine—
Marseilles, 2 dms.

Infusorial Earth—
Rotterdam, 355 pks.

Lactic Acid—
Boston, 5 kgs. 20 brls. A. J. Naylor & Co.

Manure—
Bombay, 4,201 bgs.

Ochre—
Marseilles, 60 kgs. 89 brls.
Rouen, 70 cks. Co-op. W'sale Society, Ld.
Alicante, 307 sks. E. Roberts & Woodhead

Oil—
New York, 2,735 brls.

Paint—
Boston, 5 cs. Bahr, Behrend & Ross
,, 1 ck. 1 kg. Pearson Bennion & Co.

Phosphates—
Antwerp, 1,020 bgs.
Ghent, qty.

Potash—
Antwerp, 5 cks. 4 dms.
Dunkirk, 4
Rouen, 83 Co-op. W'sale Society, Ld.

Potassium Carbonate—
Stettin, 2 cks. Sachse & Klemm

Pyrites—
Huelva, 7,472 t. Matheson & Co.

Rosin—
Trieste, 2 cs.

Soap—
New York, 1 cs.
Marseilles, 3 Braithwaite & Sons
,, 1 bx. Calvert Brs.
,, 2 M. Bell
,, 46 cs.
Bordeaux, 2
Rotterdam, 2

Starch—
Hamburg, 4 brls.
Rotterdam, 5 cs.
New York, 50 brls. J. Armstrong & Co., Ld.
Antwerp, 80 cs. J. T. Fletcher & Co.
,, 482

Stearine—
Marseilles, 35 bgs.
Bordeaux, 20
Antwerp, 13 1 bx.

Tallow—
Baltimore, 500 tcs.
New York, 500 hds.
,, 58 brls. G. W. Rowley
Boston, 260 tcs. O. Monsted
,, 965 20 hds.
,, 1,000 J. Mackee & Co.
Campana, 212 cks

Tartaric Acid—
Marseilles, 14 cks.
Rotterdam, 3

Ultramarine—
Hamburg, 10 cs.
Rotterdam, 16 cks.

White Lead—
Rotterdam 73 cks.
Antwerp, 14 50 bgs.

Wood Pulp—
Rotterdam, 153 bdls.

Zinc Oxide—
New York, 200 brls.
Antwerp, 50

MANCHESTER.

Week ending May 14th.

Acetate of Lime—
New York, 299 bgs.

Acids—
Antwerp, 4 cks.

Alumina Sulphate—
Ghent, 100 bgs.

Aniline Colours—
Hamburg, 42 cks.

Aniline Salts—
Rotterdam, 14 cks. Wilson, Sons, & Co., Ld.

Barium Chloride—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp. 100 bgs.

Beta-Naphthol—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Chromium Chloride—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Colours—
Antwerp, 22 pks.
Rotterdam, { 87 cks. 28 cs. 18 bxs. 141 brls. Wilson, Sons, & Co., Ld.

Cream of Tartar—
Rotterdam, 35 cks Wilson, Sons, & Co., Ld.

Farina—
Rotterdam, 500 bgs. N. W. Jackson
Stettin, 1,640

Gelatine—
Rouen, 21 cs.

Glucose—
New York, 25 brls.
Stettin, 1,100 bgs.

Glue—
Hamburg, 100 bgs.
New York, 10 brls.
Rotterdam, 7 cks. Wilson, 100 bgs. Sons, & Co., Ld.
Rouen 81 bls.

Indigo—
Rotterdam, 13 brls. Wilson, Sons, & Co., Ld.

Lead Acetate—
Hamburg, 18 cks.

Limestone—
Antwerp, 2 crts. 6 cs.

Litharge—
Rotterdam, 16 cks Wilson, Sons, & Co., Ld.

Ochre—
Rouen, 20 cks.

Oxalic Acid—
Rotterdam, 14 cks. Wilson, Sons, & Co., Ld.

Paint—
Rotterdam, 5 cks. Wilson, Sons, & Co., Ld.

Paraffin Scale—
New York, 592 brls.

Potash—
Antwerp 5 cks.
Hamburg, 29

Pyrites—
Huelva, 636 t. W. H. Stott & Co.

Salt—
Hamburg, 5 cs.

Sodium—
Hamburg, 9 cks.

Sodium Nitrate—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 260 cs. J. T. Fletcher & Co.
,, 100
Hamburg. { 232 50 cks.
Rotterdam, 70 cs. Wilson, Sons, & Co., Ld.
New York, 800 bgs.

Tannic Acid—
Hamburg, 5 cks.

Tartaric Acid—
Rotterdam, 18 cks. Wilson, Sons, & Co., Ld.

White Lead—
Antwerp, 8 cks.

Wood Pulp—
Hamburg, 14 bls.
New York, 200 bdls.
Rotterdam, 52 bls. Wilson, Sons, & Co., Ld.
Stettin, 590 bdls.

Zinc Oxide—
Antwerp, 70 brls.
Hamburg, 25 cks.

Zinc Sulphate—
Rotterdam, 3 brls. Wilson, Sons, & Co., Ld.

Zinc White—
Rotterdam, 35 cks. Wilson, Sons, & Co., Ld.

HULL.

Week ending May 14th.

Acetic Acid—
Bremen, 1 brl.

Acids—
Ghent, 10 cks. Wilson, Sons, & Co., Ld.

Alizarine—
Rotterdam, 132 brls. Hutchinson & Son
,, 11 cks. W. & C. L. Ringrose

Ammonia—
New York, 85 cyldrs.

Arsenic—
Hamburg, 15 brls. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 149 cks. Bailey & Leetham, Ld.
Bremen, 46 Veltmann & Co.

Chemicals (*otherwise undescribed*)
Rotterdam, 3 cs. Hutchinson & Son
Antwerp, 24 cks. Wilson, 180 pks. Sons, & Co., Ld.
Dunkirk, { 32 cks. 20 dms. ,,
Antwerp, 1
Hamburg, 1 cs. Veltmann & Co

Colours—
Ghent, 8 cks. Wilson, Sons, & Co., Ld.
Antwerp, { 61 brls. 37 cks. ,,
Hamburg, 15 ,,
Amsterdam, 3 W. & C. L. Ringrose
Rotterdam, { 40 5 bxs. ,,
,, 107 pks. Hutchinson
6 brls. & Son
,, 6 cks. Wilson, Sons, & Co., Ld.

Cream of Tartar—
Rotterdam, 2 cks. Hutchinson & Son

Dyestuffs—
Myrabolams
Bombay, 10,354 bgs.

Glucose—
New York, { 1,500 bgs. 1,249 brls.
Rotterdam, 60 Hutchinson & Son

Glue—
Hamburg, 5 bgs. Wilson,
1 cs. Sons, & Co., Ld.
Dunkirk, 25 cks. ,,
,, 12 bls. ,,
Antwerp, 30 bgs. ,,

Lead Acetate—
Hamburg, 3 cks. Wilson, Sons, & Co., Ld.

Limestone—
Antwerp, 2 crts. Wilson,
2 cs. Sons, & Co., Ld.

Lithopone—
Amsterdam, 12 cks. Hutchinson & Son

Madder—
Rotterdam, 1 ck. W. & C. L. Ringrose

Manure—
Bombay, 6,000 bgs.

Ochre—
Bremen, 6 cks. Veltmann & Co.

Oxalic Acid—
Rotterdam, 2 cks. Hutchinson & Son

Phosphorus—
New York, 50 cs.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.
Rotterdam, 144 cks. W. & C. L. Ringrose

Potash—
New York, 5 cks.
Hamburg, 1 dm.

Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.

Soap—
Christiania, 1 cs. Wilson, Sons, & Co., Ld.

Soda—
Antwerp, 20 bgs. Wilson, Sons, & Co., Ld.
Rotterdam, 2 dms. Hutchinson & Son

Starch—
Ghent, 526 cs. Wilson, Sons, & Co., Ld.
Rotterdam, 75 Hutchinson & Son
New York, 66
Bremen, 1,112 Veltmann & Co.
Rotterdam, 80 W. & C. L. Ringrose
" 251 pks. Reckitt & Sons
Antwerp, 60 cs. Wilson, Sons, & Co., Ld.

Stearine—
New York, 25 tcs. Wilson, Sons, & Co., Ld.
Antwerp, 121 bgs. "

Tallow—
New York, 177 tcs. Wilson, Sons, & Co., Ld.
Hamburg, 12 "
Dunkirk, 303 cks. "
" 40 brls. "

Tartar—
Bordeaux, 9 cks. Rawson & Robinson

Tartaric Acid—
Rotterdam, 4 cks. Hutchinson & Son

Treacle—
New York, 790 brls. Wilson, Sons, & Co., Ld.
Hamburg, 16 cks. "

Ultramarine—
Rotterdam, 6 cks. Hutchinson & Son
7 pks.
Rotterdam, 1 ck. W. & C. L. Ringrose

Waste Salt—
Hamburg, 524 bgs. Wilson, Sons, & Co., Ld.
" 50 t. Bailey & Leetham, Ld.

White Lead—
Amsterdam, 8 cks. Hutchinson & Son
Rotterdam, 71 "
Antwerp, 39 Bailey & Leetham, Ld.
Amsterdam, 48 W. & C. L. Ringrose

Wood Pulp—
Drontheim, 2,673 bls. Wilson, Sons, & Co., Ld.
Malmo, 10 "
Oporto, 250
Hamburg, 400 pks. Bailey & Leetham, Ld.

Zinc Oxide—
Hamburg, 3 cks.

Zinc White—
Amsterdam, 40 cks. W. & C. L. Ringrose
Rotterdam, 25 Hutchinson & Son

GLASGOW.

Week ending May 19th.

Acetone—
Hamburg, 1 ck. J. Currie & Co.

Barytes—
Hamburg, 50 bgs. J. Currie & Co.
Antwerp, 250
Rotterdam, 6 pks. J. Rankine & Son
Hamburg, 13 cks.

Bleaching Powder—
Rotterdam, 45 cks. J. Rankine & Son

Boracic Acid—
Leghorn, 4 brls.

Carborundum—
New York, 29 pks. 34 hf.-pks.

Castor Oil—
Marseilles, 53 pks. 103 brls.
Antwerp, 33 cks.

Colours—
Rotterdam, 124 pks. J. Rankine & Son
1 ck.
Antwerp, 1 ck.

Dyestuffs—
Alizarine
Rotterdam, 36 brls. J. Rankine & Son
3 bxs.
Aniline
Rotterdam 4 cks. J. Rankine & Son
5 bxs. 5 brls. 2 cs.
Aniline Colours
Hamburg, 4 cks J. Currie & Co.
Antwerp, 18 cs.
Hamburg, 2 2
Extracts
Antwerp, 1 cs.
Indigo
Rotterdam, 15 brls. J. Rankine & Son

Fluoric Acid—
Hamburg, 1 cs. J. Currie & Co.

Glucose—
New York, 1,297 brls.

Glue—
Genoa, 24 cks.

Guano—
Iceland, 525 bgs.

Manganese Borate—
Hamburg, 1 ck. J. Currie & Co.

Ochre—
Marseilles, 11 brls.

Oxalic Acid—
Hamburg, 15 cks.

Paint—
Marseilles, 100 pks.
Montreal, 80

Phosphate of Lime—
Bona, 1,804 t.

Plumbago—
Genoa, 100 bgs.

Potash—
Rotterdam, 62 cks. J. Rankine & Son
21 dms.
Montreal, 15 brls.
Hamburg, 26 dms.

Saltpetre—
Hamburg, 21 kgs. J. Currie & Co.

Soap—
New York, 3,000 bxs.
Leghorn, 25 cs.
Marseilles, 3
Rotterdam, 10 J. Rankine & Son

Starch—
New York, 125 sks.
Montreal, 30 bxs.
Baltimore, 358 bgs.

Stearine—
New York, 25 tcs.
Antwerp, 95 bgs.

Tallow—
New York. 115 tcs.

Tar Waste—
Rotterdam, 4 cks J. Rankine & Son

Varnish—
New York, 32 brls.

Verdigris—
Marseilles, 1 brl.

White Lead—
Rotterdam, 10 cks. J. Rankine & Son
9 pks.

Wood Pulp—
Skutskar, 9,277 bls. Henderson, Craig & Co.
Christiania, 1,614 10 cs.

Zinc White—
Rotterdam, 45 pks. J. Rankine & Son

TYNE.

Week ending May 14th.

Antimony—
Vera Cruz, 840 bgs.

Barium Chloride—
Hamburg, 500 bgs. Tyne S. S. Co.

Chemicals *(otherwise unaescribed)*
Rotterdam, 20 dms. Tyne S. S. Co.

Colours—
Hamburg, 1 cs. Tyne S. S. Co.

Glucose—
New York, 350 brls. Furness, Withy, & Co.

Ochre—
Rouen, 186 cks. J. Brown & Co.
Rotterdam, 3 Tyne S. S. Co.

Pyrites—
Huelva, 2,672 t. Tharsis Sulphur & Copper Co.

Soap—
Rotterdam, 7 cs. Tyne S. S. Co.

Starch—
Rotterdam, 60 cs. Tyne S. S. Co.

Varnish—
Antwerp, 10 brls. Tyne S. S. Co.

White Lead—
Antwerp, 20 cks. Tyne S. S. Co.

Zinc Ashes—
Antwerp, 1 ck. Tyne S. S. Co.

Zinc Oxide—
Antwerp, 20 brls. Tyne S. S. Co.

GOOLE.

Week ending May 11th.

Acetic Acid—
Rotterdam, 4 cks.

Alizarine—
Rotterdam, 127 cks.

Aniline—
Hamburg, 44 cks. 10 cs.

Barytes—
Antwerp. 40 bgs.

Dyestuffs *(otherwise undescribed)*
Boulogne, 100 cks. 4 cs.
Rotterdam, 267 88

Farina—
Delfszyhl, 275 bgs.
Hamburg, 100

Glue—
Hamburg, 10 cks.

Logwood—
Hamburg, 14 t.

Phosphate—
Dunkirk, 1,600 bgs.
Ghent, 1,000

Potash—
Calais. 53 dms.
Dunkirk, 12 cks. 24
Rotterdam, 164

Saltpetre—
Hamburg, 34 cks.

Soda—
Rotterdam, 40 cks.

Tartar—
Rotterdam, 1 ck.

Waste Salt—
Hamburg, { 520 t. 563 cks.

GRIMSBY.

Week ending May 14th.

Albumen—
Hamburg, 2 cks.

Barytes—
Rotterdam, 100 bgs.

Caoutchouc—
Hamburg, 11 cs.
Rotterdam, 2

Chemicals *(otherwise undescribed)*
Antwerp, 10 cks.
Hamburg, 48

Colours—
Antwerp, 4 cks. 97 pks.
Dieppe, 4 cs.
Hamburg, 16 4 12
Rotterdam 10 9

Dyestuffs *(otherwise undescribed)*
Dieppe, 30 cks. 45 pks.

Farina—
Hamburg, 100 bgs.

Waste Salt—
Hamburg, 987 bgs.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 18th.

Acids—
Adelaide, 7 cs. £17
Madras, 15 12

Alkali—
Auckland, 1 t. £7

Alum Waste—
Calcutta, 40 t. £100

Ammonia—
Adelaide, 2 c. £11
Valencia, 102 t. 873

Ammonium Carbonate—
Rouen, 5 t. 12 c. £135
Adelaide, 5 11
St. Petersburg, 42 3 1,115
New York, 25 cks. 175

Ammonium Chloride—
Amsterdam, 1 ck. £10
Antwerp, 15 49
Piræus 8 c. 13

Ammonium Sulphate—
Antwerp, 132 t. 12 c. £1,170
Ostend, 95 13 805
Demerara, 50 4 450
Barbadoes, 230 13 2,118
Madras, 3 12 45
Valencia, 100 873
Dunkirk, 10 89
Surinam, 10 90
Amsterdam, 51 459

Anhydrous Ammonia—
Antwerp, 8 cyldrs. £35

Borax—
Amsterdam, 7 c. £15
Perth, 30 kgs 22
Dusseldorf, 8 t. 15 140
Rotterdam, 1 1 17
Cologne, 14 12
Copenhagen, 1 30

Caustic Soda—
Lyttelton. 17 c. £44
Philadelphia, 67 t. 400
Sydney, 9 20
Hong Kong, 15 17
Adelaide, 6 8
Beira, 5 6

Chemicals *(otherwise undescribed)*
Shanghai, 2 cs. £22
Singapore, 1 17
Havre, 4 cks. 34 65
Adelaide, 39 86
Brussels, 5 kgs. 30
Antwerp, 16 93
Brisbane, 5 pks. 75
Bombay, 6 40
St. John's, 14 45
Rotterdam, 10 cks. 60
Perth, 190 pks. 10 dms. 301
Hamburg, 24 2 cs. 27 437
Gothenburg, 26 cks. 25
E. London, 6 20
Madras, 20 27
Melbourne, 30 pks. 1 149
New York, 20 brls. 83

Citric Acid—
Hamburg, 2 cks. £58
Christiania, 1 10
Stockholm, 1 t. 114
St. Petersburg, 1 10 c. 5 kgs. 212
Brussels, 10 58
Sydney, 6 28
Penang, 2 13
Pt. Elizabeth, 2 10
Bombay, 6 cs. 23

Coal Products—
Alizarine
Boston. 55 cks. £671
Aniline
Melbourne, 2 cs. £60
Adelaide, 1 9
Dunkirk, 5 dms. 140

Anthracene
Dusseldorf, 114 cks. £700
Rotterdam, 551 1,835
Benzol
Antwerp, 5 dms. £35
Rotterdam, 40 puns. 412
Hamburg, 24 cks. 70
Carbolic Acid
Adelaide. 5 cks. £23
Melbourne, 50 dms. 20
Creosote
Lisbon, 70,485 galls. £1,121
New York, 500 cks. 353
Creosote Salts
Philadelphia, 692 bgs. £167
Naphtha
Melbourne, 50 dms. £20
Sydney, 25 15
Naphthaline
Piræus, 16 cks. £33
Philadelphia 441 bgs. 42
Bordeaux, 12 41 34
Aden, 4 17
Hamburg, 6 53
New York, 221 3 cs. 221
Paris, 33 100 149
Pitch
Dunkirk. 741 t. £792
Helsingfors, 100 95
Antwerp, 935 1,157
Sydney, 12½ brls. 6
Wyborg, 60 57
New York, 20 cks. 30
Prussian Blue
Amsterdam, 2 cks. £10
Tar
Helsingfors 353 cks £194
Wyborg, 479 rnlts. 263
St. John's, N.B., 800 400
E. London, 100 dms. 4
Melbourne, 24 68
Toluol
Rotterdam, 48 rnlts. £230

Copper Sulphate—
Odessa, 15 t. £250
Galatz, 3 48
Boulogne, 5 78
Treport, 5 840
Paris, 5 78
Bordeaux, 40 665

Cream of Tartar—
Bundaberg, 5 c. £20
Wellington, 3 12

Disinfectants—
Melbourne, 3 cs. £16
New York, 5 t. 10 c. 96
Singapore, 14 30
Durban, 5 15
Sydney, 6 pks. 26
Rotterdam, 11 30
Sydney, 18 39
Hong Kong, 80 dms. 20
Malta, 3 13
Shanghai, 5 12
Hamburg, 2 cks. 20 12
Montreal, 33 pks. 20
Calcutta, 82 1,947 204

Manure—
Madeira, 3 t. £21
Guadeloupe, 20 15 c. 100
Dominica, 10 2 90
Lyttelton, 2 5 74
Auckland, 20 58
Barbadoes, 300 18 1,855
Demerara, 20 154
Surinam, 10 80
Guernsey, 1 10
Morlaix, 160 1,150

Nitric Acid—
Jaffa, 1 cs £12
Beyrout. 3 20
Townsville, 1 t. 1 c. 8
Jersey, 21 carboys 43
Madras, 6 8

Oxygen—
Jersey, 4 cs. £13

Potash—
Hamburg, 2 t. 10 c. £99
Madras, 4 35
New York, 5 24

Potassium Bichromate—
Adelaide, 5 c. £10

Potassium Carbonate—
Adelaide, 11 c. £9

Potassium Cyanide—
Delagoa Bay, 5 t. £513
Adelaide, 1 220
Melbourne, 5 700
Fremantle, 2 260
Perth, 1 112
Sydney, 15 cs. 200
Pt. Elizabeth, 6 562

Potassium Nitrate—
Hamilton, 2 t. 5 c. £56

Potassium Oxymuriate—
B Ayres, 1 t. £30
New York, 2 10 c. 75

Potassium Prussiate—
Hiogo, 1 t. £60

Saltpetre—
Montreal, 55 t. 11 c. £820
Sydney, 2 41

Sheep Dip—
Hobart, 100 dms. £38
Napier, 1 t. 12 c. 56
New York, 14 cks. 25
Durban, 1,000 dms. 197
Launceston, 3 t. 13 c. 141

Soda—
Fremantle, 2 t. 15 c. £47
Delagoa Bay, 2 8

Soda Salts—
New York, 2 t. £115

Sodium Bicarbonate—
Adelaide, 10 c. £19
Sydney, 5 t. 8 24

Sodium Carbonate—
Perth, 5 c. £8
Zanzibar, 2 t. 10 17

Sodium Prussiate—
Boston, 10 t. £360

Sulphur—
Orotava, 4 t. 4 c. £33
Madeira, 14 6
Cape Town, 100 cks. 200 kgs. 174

Tartaric Acid—
Lisbon, 5 c. £28
Rouen, 1 t. 118
Melbourne, 1 114
Pt. Elizabeth, 2 kgs. 11
Sydney, 20 111

LIVERPOOL.

Week ending May 18th.

Alkali—
Tampico, 10 t. 12 c. 2 q. £80
Genoa, 7 16 32
Catania, 7 17 32
Algoa Bay, 1 17 8
Sourabaya, 6 3 2 25
Fremantle, 5 1 20
Venice, 5 2 1 20
Antwerp, 1 4 3 5
Valencia, 7 14 30
B. Ayres, 3 2 2 13
Rotterdam, 4 13 1 20

Alum—
Johannesburg, 10 c. £3
Patras, 9 12
Varna, 3 t. 3 3 q. 15
Santos, 10 2
Salaverry, 17 3 3
Lima, 1 6
Calcutta, 29 2 150
Smyrna, 7 3 2 35
Ceara, 11 3 6
Melbourne, 1 2 3 9
Vancouver, 1 5 27
Talcahuano, 2 15 14
Galatz, 3 2 15
Smyrna, 5 16 2 30
Bourgas, 11 3 3
Constantinople, 1 3 2 7

Alumina Sulphate—
Montreal, 15 t. 3 c. £85

Ammonia (Liquid)—
B. Ayres, 4 c. £6

Ammonium Carbonate—
Adelaide. 5 c. £8
Hamburg, 9 13
Venice, 1 t. 23
Copenhagen, 2 2 41
Lisbon, 12 15
Marseilles, 12 17

Ammonium Chloride—
Galatz, 1 t. £35
Bombay, 4 c. 6
Beyrout, 15 24
Smyrna, 15 25
Antwerp, 12 19
Hamburg, 6 10
Tripoli, 6 9
New York, 20 18 373
Melbourne, 1 18
Philadelphia, 5 10 182
Alexandria, 4 10 145
Copenhagen, 10 14
Lisbon, 15 31
Kobe, 1 5 23

Ammonium Sulphate—
Teneriffe, 40 t. £363
Barcelona, 60 5 c. 500
Samarang, 260 17 1,888
Cullera, 176 6 1,533
Demerara, 285 19 2 q. 2,588
Valencia, 126 6 3 1,187
Gd. Canary, 21 16 1 199

Bleaching Powder—
Baltimore, 101 cks.
Boston, 83
Cape Town, 40 bxs.
Chicago, 23
Everett, 79
Genoa, 115
Leghorn, 23
Montreal, 67
Nantes, 36 pks.
Naples, 48
New York, 344
Tampico, 15 brls.
Toronto, 10
Windsor Mills, 30
Shanghai, 12 c. 2 q. £6

Boracic Acid—
Sydney, 1 t. £20

Borax—
Rotterdam, 3 t. 2 c. £50
Lima, 1 15
Genoa, 2 19 44
Toronto, 16 35
Antwerp, 6 17 3 q. 110
Hamburg, 11 10 3 168
Ghent, 1 12 1 24
Montreal, 10 1 3 151
Rosario, 1 4 2 19
Oporto, 1 13
Constantinople, 1 14
Natal, 1 11 cs. 29

Calcium Chloride—
Shanghai, 7 t. 7 c. £16
Melbourne, 10 2 21
Boston, 30 3 56
Rouen, 10 22

Carbolic Acid—
Sydney, N S.W., 1 t. 3 c. £37
Algoa Bay, 3 cs. 5
Calcutta, 3 3 q. 36
Hong Kong, 3 1 5
Rouen, 23 2 3 1,011
New York, 1 5

Carbonic Acid Gas—
Punta Arenas, 4 cs. £25

Caustic Potash—
Hong Kong, 3 c. £5

Caustic Soda—
Adelaide, 65 dms.
Alexandria, 35
Algoa Bay, 10
Antwerp, 42
Batavia, 22
B. Ayres, 50
Carupano, 12
Catania, 65
Cheribon 4
Copenhagen, 2
Corunna, 20 cks.
Darlington, 50
Delagoa Bay, 10
Galatz, 27
Genoa, 558
Hamburg, 375 35 pks.
Hiogo, 52
Ibrail, 70
La Guayra, 10
Leghorn, 7
Lisbon, 60
Maceio, 10
Melbourne, 257
M. Video, 60
Montreal, 12
Nantes, 157
Naples, 180
New York, 80 185
Pasages, 10 40
Penedo, 30
Pernambuco, 30
Pisco. 30
Pt. Natal. 5 3 cs.
Portland. Or., 200
Rangoon, 23
Rio de Janeiro, 8
Rotterdam. 17
San Sebastian, 50
Sfax, 15
Stettin, 14
Savanilla, 10
Stockholm, 5
Singapore, 14
Sydney, 85
Trieste, 15
Valparaiso, 10

Chemicals *(otherwise undescribed)*
Montreal, 4 t. 1 q. £43
Natal, 8 c. 14
Sydney, 1 1 30
Boston, 188
Quebec, 2 17 2 13
Calcutta, 10 11 34
Genoa, 4 10 63
M. Video, 1 16
Melbourne, 1 dm. 12
Santander, 6 t. 7 1 87
Rotterdam, 11 11 158
Seville, 2 9 2 33

China Clay—
Baltimore, 200 cks.
Bombay, 40
Boston, 2,084
Montreal, 70
New York, 155 t.
Pernambuco, 30
Venice, 50

Chromium Trioxide—
Antwerp, 6 c. £19

Citric Acid—
Hong Kong, 3 c. 3 q. £21

Citric and Tartaric Acid—
Bombay, 3 c. 2 q. £12

Coal Products—
Aniline Colours
Bombay, 11 cs.
Bordeaux, 1
Melbourne, 4
New York, 19 cks.
Quebec, 5 kgs.
Aniline Salts
Bombay, 2 cs.
Boston, 20 kgs.
Piræus. 10 brls.
Pitch
Valparaiso, 300 brls.
Tar
Hamburg, 188 brls.
Manaos, 120 dms.
Newport News, 74 cks.
Philadelphia. 50

Copper Sulphate—
Bordeaux, 829 t. 7 c. 1 q. £13 417
Venice, 89 8 1,404
Constantinople, 105 2 1 837
Leghorn, 37 7 587
Naples, 139 17 2 2,172
Nantes, 78 15 2 1,279
Galatz, 6 95
Genoa, 115 12 1,823
Ghent, 2 8 39
Ancona, 8 3 132
Smyrna, 2 36
Stamboul, 19 15
Messina, 1 18 30
Antwerp, 2 10 38
Rio Janeiro, 6 5
La Pallice, 2 9 37
Amsterdam, 5 1 1 78
Santos, 6 5
Volo, 5 4
Libau, 19 2 17
Buenos Ayres, 5 75
Brindisi, 9 17 150
Odessa, 1 3 2 19
Marseilles, 5 4 96
Rouen. 36 18 3 611
Karachi, 2 10 43

Copperas—
Constantinople. 1 t. 18 c. £5
Lima, 1 16 3 q. 4
Callao, 2 2 5
Santos, 10 1
Vera Cruz, 3 1
Stamadura, 1 6 2 2

Cream of Tartar—
Tampico, 4 c. 2 q. £18

Disinfectants—
St. John's. Nf'd, 4 c. £7
Newport News, 7 2 q. 14
New York, 4 t. 19 1 375
Hamburg, 1 7 88
Baltimore, 5 1 312
Melbourne 2 cs. 5

Dried Blood—
Nantes, 10 t. 5 c. 3 q. £74
Boston, 2 93

Guano—
Alumunocar, 50 t. 3 q. £425

Lead Nitrate—
Magog. P.Q., 19 c. £21

Magnesia—
New York, 10 cs.
Philadelphia, 71
Toronto, 3
Trieste, 4 tcs.

Magnesium Chloride—
Rouen, 5 t. 2 c. 1 q. £16

Magnesium Sulphate—
Karachi, 20 kgs.
Portland. O., 60 cs.

Oxalic Acid—
Portland, O., 6 c. 2 q. £11

Paint—
Algoa Bay, 75 kgs.
Amsterdam, 1 cs.
Antwerp, 7 cks.
Antofagasta, 2
Axim, 30 dms.
B. Ayres, 2
Ceara, 5
Curacao, 50
Fernando Po., 66
Frontera, 4
Gibraltar, 13 pks.
Jeremie, 5
M. Video, 10
New York, 20
Panama, 7
Pt. Limon, 11 cs.
St. Domingo, 4
St. Anto do Zaire, 40 dms.
Sao Thom, 3
Shanghai, 380 kgs.
Sierra Leone, 180
Talcahuano, 43
Trieste, 12
Tuticorn, 10
Valparaiso, 144 pks.

Painters' Colours—
B. Ayres, 54 cks. 68 cs.
Calcutta, 220 pks.
Galatz, 20
Hamburg, 6
Iquitos, 12
Maracaibo, 620
Odessa, 34
Para, 26
Pernambuco, 20
Piræus, 2 brls.
Pt. Natal, 60
Progresso, 6
Rotterdam, 8
Santos, 10
Toronto, 7

Paraffin Wax—
Cephalonia, 15 bgs.
Genoa, 34
Leghorn, 40
Lisbon, 300
Palermo, 5
Piræus, 10 cs.
Teneriffe, 5

Phosphorus—
Hiogo, 2 t. 5 c. £424
Rio de Janeiro, 2 20
Shanghai, 1 16 298
Vera Cruz, 2 17

Potash—
B. Ayres, 3 t. 13 c. £41

Potash Salts—
Guaymas, 12 t. 9 c. £1,128

Potassium Bicarbonate—
New York, 1 t. 3 c. 2 q. £31

Potassium Bichromate—
Ghent, 1 t. 8 c. £58
Antwerp, 4 10 176
Alexandria, 6 4 255
Rosario, 7 1 q. 16
Montreal, 2 17 3 101
Vera Cruz, 8 17

Potassium Carbonate—
Manaos, 8 c. 3 q. £11
Rio de Janeiro, 16 3 14

Potassium Chlorate—
Santos, 10 c. £15
Libau, 9 14
Adelaide, 10 15
Hamburg, 6 8
Palermo, 5 8
Melbourne, 10 15
Reval, 6 t. 180
Copenhagen, 1 10 46
Konigsberg, 15 23
Randers, 1 10 30
Sydney, 5 10 165
Hong Kong, 1 40
Montreal, 23 5 654
Hiogo, 5 148

Potassium Prussiate—
Genoa, 16 cks. £188

Salt—
Adjuah, 7 t. 10 c.
Antwerp, 235 2,500 sks.
Baltimore, 200
Barbadoes, { 600 bgs. 50 t.
Boston, 550
B. Ayres, 50 50 cs.
Calcutta, 11,928
Cameroons, 65 9
C. C. Castle, 30
Ghent, 105
Cape Lahou, 6 14
Cape Town, 147
Demerara, 53
E. London, 108 10 35
Gefle, 110
Gothenburg, 25
Iquitos, 20
Konillon, 48
Lagos, 40
Manaos, 142
Matadi, 35
Mauritius, 15
Melbourne, 20
Montreal, 1,380
Muculla, 3 468
New York, 10
Noqui, 29 16
Norrkoping, 21 10
Old Calabar, 20
Opobo, 4
Pt. Elizabeth, 14 5
Rio de Janeiro, 400
Rio Del Rey, 17 17
Sheridac, 250
Stockholm, 179 3
Sherbro, 70 2
Ukaka, 18 15
Valparaiso, 300
Winnebah, 12 10

Salt Cake—
Baltimore, 91 t. 4 c. £136
Gefle, 103 7 142

Saltpetre—
Halifax, 10 c. £11
Maceio, 1 t. 2 2 q. 25

Sheep Dip—
Calcutta, 10 t. 4 c. 6 q. £219
M. Video, 2 3 1 60

Soap—
Addah, 10 cs.
Adelaide, 400
Alexandria, 11 brls.
Ambrizette, 200 bxs
Algoa Bay, 1 090 35 cs.
Bata, 60
Barranquilla, 2
Beira, 100
Bombay, 100 14
Calcutta, 54 270 bdls.
Callao, 2
Cameroons, 150
Campana, 10 kgs.
C. C. Castle, 137 bxs.
Cape Town, 10
Colon, 600
Constantinople, 15
Copenhagen, 2,000
Delagoa Bay, 639
Demerara, 2,400
E. London, 1,185 pks.
Fernando, 50
Galata, 60
Genoa, 75
Gibraltar, 200
Johannesburg, 90
Karachi, 740
Lima, 5
Loango, 72
Madras, 66
Malta, 21
Manaos, 50
Matadi, 50
Montreal, 500
Mossel Bay, 550
Naples, 8
Newport News, 5 dms.
New York, 1 pk.
Noqui, 40
Old Calabar, 1
Para, 900 200 bdls.
Penang, 806
Piraeus, 18
Port Natal 740 50
Port Nolleth, 50 5
Port Elizabeth, 600
Rotterdam, 300
San Juan Del Sur, 100
Sapeli 200
Shanghai, 10,142
Sierra Leone, 300
Singapore, 2,532
Smyrna, 6
Tampico, 1
Teneriffe, 424
Toronto, 626
Trinidad, 1,250
Valparaiso, 29 20
Vera Cruz, 1
Warri, 200
Winnebah, 50
Zurich, 260

Soda—
Valencia, 500 bgs

Soda Alkali—
Barcelona, 35 brls.
Bilbao 50
Catania, 25 cks.
Genoa, 625 pks.
St. Domingo, 17

Soda Ash—
Baltimore, 400 bgs.
Boston, { 32 tcs. 236 pks.
Copenhagen, 100
Dunedin, 24 cks.
Genoa, 500
Leghorn, 120
M. Video, 20 brls.
Montreal, 458
New York, 24 tcs.
Oporto, 10
Otago, 20
Philadelphia, 940 65
Riga, 100
Rio de Janeiro, 10
Salonica, 60
San Francisco, 137
Sourabaya, 40
Stettin, 350
Savonerie, 8
Singapore, 21
Trieste, 100
Wellington, 264

Soda Crystals—
Boston, 280 brls.
Capena, 7
Gibraltar, 10
Halifax, 320 kgs.
Montreal, 175 pks.
New York, 140 cks.
Philadelphia, 84
Toronto, 120 bgs. 210 pks.

Soda Oxide—
Leghorn, 5 cks.

Sodium Bicarbonate—
Amsterdam, 50 kgs.
Antwerp, 30 bgs. 8 cks.
Bombay, 112 kgs.
Bordeaux, 50 brls.
B. Ayres, { 50 bgs. 70 kgs. 60
Charlotte Town, 150 dms.
Dunedin, 275
Galatz, 129
Genoa, 29 cks.
Halifax, 110
Hamburg, 30
Ibrail, 32
Karachi, 250
Konigsberg. 150
Kustendjie, 15
London, 15
Madrid, 140
Melbourne, 36
M. Video, 25 pks.
Nantes, 12
Naples, 100
Rio de Janeiro, 100
Singapore, 4 cks.
Syra, 2
Trinidad, 200 pks.
Vera Cruz, 100
Wellington, 176

Sodium Bichromate—
Ghent, 11 cks.

Sodium Carbonate—
Adelaide, 5 cs.
Boston, 56 brls.

Sodium Chlorate—
Hamburg, 4 cks.
Magog, 20 kgs.
Stettin, 111 pks.

Sodium Hyposulphate—
Portland, Or., 23 kgs. 6 cks.

Sodium Hyposulphite—
Montreal, 80 kgs.

Sodium Naphthionate—
Barcelona, 10 cks.

Sodium Sulphate—
Portland, Or., 73 cs.

Sodium Tannate—
Calcutta, 3 cs.

Sulphur—
Callao, 19 c. £6
Halifax, 1 t. 5 8
Montreal, 1,439 11 6,219
Tampico, 1 1 6

Sulphuric Acid—
Rio de Janeiro, 1 t. 16 c. £13

Superphosphates—
Teneriffe, 10 t. £35
St. Nazaire, 150 1 c. 263
Charlotte Town, 30 70
Las Palmas, 25 125
Valencia, 100 2 3 q. 218
Hamburg, 56 13 113

Varnish—
Canea, 1 ck.
Catania, 1

Waste Salt—
Trinidad, 62 t. 2 c.

White Lead—
Alexandria, 80 kgs.
Calcutta, 3 cks.
Johannesburg, 120 dms.
Pt. Elizabeth, 18 cs.

Zinc Chloride—
Bombay, 6 t. 9 c.
Braila, 16
Yokohama, 19

MANCHESTER

Week ending May 18th.

Alkali—
Tunis, 5 cks.

Aniline Colours—
France, 1 cs.
Germany, 10 kgs.

Aniline Oil—
Belgium, 5 dms
France, 1

Aniline Salts—
Germany, 10 pns.

Arseniate of Soda—
France, 3 brls.

Beta Naphthol—
Belgium, 6 pks.

Chemicals (*otherwise undescri*
Lattakia, 10 brls.

Copperas—
Alexandria, 167 brls.
Beyrout, 15
Lattakia, 10

Glue—
Germany, 17 cks.
Holland, 13

Linseed Oil—
Larnaca, 1 ck.

Naphthylamine—
Switzerland, 14 cks.

Painters' Colours—
Alexandria, 7 cs. 2 brls
Jaffa, 2
Larnaca, 1 ck.

Pyridine—
Stettin, 26 cks.

Salammoniac—
Beyrout, 10 cks.
Jaffa, 1 brl.

Soap—
Malta, 1 cs.
Holland, 10

Soda Crystals—
Jaffa, 12 brls

Sodium Bichromate—
Jaffa, 5 kgs.

Sodium Chlorate—
Helsingfors, 100 dms.

Sodium Naphthionate—
Switzerland, 7 cks.

Tar Oil—
Belgium, 12 brls
Germany, 24 dms.
Stettin, 6 cks.

Turpentine—
Alexandria, 2 dms.

HULL.

Week ending May 14th.

Alkali—
Abo, 6 cks
Wyburg, 11

Ammonium Sulphate—
Antwerp, 1,000 bgs.
Dunkirk, 179

Antimony—
New York, 200 cks.

Bleaching Powder—
New York, 91 cks.
Reval, 4
Stettin, 21

Carbolic Acid—
Amsterdam, 132 cks.

Caustic Soda—
Riga, 35 dm

Chemicals (*otherwise undescr*
Amsterdam, 148 cks.
Antwerp, 7
Bombay, { 425 75 da 20 pk

Christiania, 25 cs. 20
Constantinople, 100
Copenhagen, 6
Danzig, { 47 bgs. 16 cks.
Gothenburg, 6 14
Hamburg, 10 148
Kurrachee, 125
Norrkoping, 7
New York, 25
Odessa, 45
Riga, 6 84
Rotterdam, 86

Cottonseed Oil—
Amsterdam, 3 960 c.
Antwerp, 1,139
Bremen, 202
Christiansand, 7
Constantinople, 70
Dunkirk, 268
Gothenburg, 442
Ghent, 103
Hamburg, 1,031
Rouen, 111
Rotterdam, 655

Dyestuffs *(otherwise undescribed)*
Odessa, 1 ck.
Reval, 2 dms.

Glue—
Bergen, 5 bgs.

Linseed Oil—
Amsterdam, 101 c.
Bergen, 49
Christiania, 329
Christiansand, 239
Christiansund, 36
Constantinople, 86
Copenhagen, 76
Drontheim, 141
Ghent, 3
Hamburg, 396

Manure—
Stolpemunde, 450 t.

Naphthaline—
Riga, 251 bgs.

Ochre—
Hamburg, 6 cs.

Paint—
Bombay, 11 cks. 6 cs.

Painters' Colours—
Aalesund, 1 ck. 40 pks.
Antwerp, 69 58 cs. 18 dms.
Bergen, { 1 1 20 32 pks.
Bremen, 34 11
Christiania, 36 4
Christiansand, 72
Copenhagen, 27 1
Drontheim, 12 16 dms.
Danzig, 9
Gothenburg, 6 3 22
Ghent, 30
Hamburg, 13
Konigsberg, 39
New York, 45
Odessa, 98
Rouen, 24
Riga, 1
Rotterdam, 2 1 24
Stavanger, 1 20 pks.
Stettin, 21 6

Pitch—
Antwerp, 283 t.
Constantinople, 100 cks.
New York, 220

Sheep Dip—
Bombay, 75 dms.

Syrup—
Bergen, 20 cks.

Tallow—
Bombay, 9 cks.

Tar—
Abo, 4 brls.
Amsterdam, 21
Antwerp, 133 t. 10
Christiania, 5 cks.
Christiansand, 3
Copenhagen, 10
Danzig, 5
Helsingfors, 75
Rouen, 6

Turpentine—
Gothenburg, 10 cks.

Varnish—
Antwerp, 1 ck. 4 cs. 1 dm.
Christiania, 1
Copenhagen, 2
Gothenburg, 2
Ghent, 3
Kurrachee, 1
Rotterdam, 6 brls.

GLASGOW.

Week ending May 19th.

Alkali—
Amsterdam £45

Alum—
Canada, £45

Ammonium Sulphate—
Amsterdam, 182 t. 10 c.

Benzine—
France, £149

Bleaching Powder—
Canada, 15 t. 5 c.
Valparaiso, £40

Borax—
Rotterdam, £16

Castor Oil—
Fremantle, £22

Caustic Soda—
B. Ayres, 30 t.
Seville, 29 1 c.

Charcoal (Spent)—
Hamburg, 1 t. 6 c.
Rotterdam, 53 17

Chemicals *(otherwise undes.)—*
Montreal, £79
Valparaiso, 243

Coal Products—
Creosote Oil
Christiania, £14 10s.
France, £2,593
Pitch
Bombay, £129
Caen, 335
Calcutta, 377
Canada, 278
Gothenburg, 465
New York, 46
Pitch and Tar
Madras, £80
Tar
Bombay, £75
Colombo, 54
Drontheim, 3
Rangoon, 31

Dried Blood—
Paris, 15 t. 2¼ c.

Dyestuffs—
Extracts
Canada, £94
Logwood
Canada, £35 18s.

Epsom Salts—
Christiania, £10

Fish Oil—
Calcutta, £303

Gelatine—
Canada, £73
New York, 196

Iodine—
Rotterdam, £1,550

Linseed Oil—
Canada, 2 t. 6 c.
Cape Town, 16
Hong Kong, 3 9

Paint—
Christiania, £4
Havre, 63
Valparaiso, 61

Painters' Colours—
Calcutta, £695
Cape Town, 219
Colombo, 160
Hong Kong, 64
Johannesburg, 44
Singapore, 76
U.S.A., 97
Umtali, £31 13s.

Paraffin Wax—
Bordeaux, 6 t. 12 c.
Hiogo, 7 10
Stavanger, 10

Potash Salts—
Singapore, £104

Potassium Bichromate—
Hiogo, £267
Montreal, 212
Rouen, 448
U.S.A., 435
Yokohama, 178

Potassium Cyanide—
Madras, £959

Salt—
Hiogo, 3 t.
Montreal, £21 10s.

Soap—
Bombay, 2 t. 7½ c.
E. London, 3 15
Hong Kong, 1 5
Rangoon, 3
Shanghai, 3 14

Sodium Bichromate—
Canada, 2 t. 9¾ c.
Paris, 3¾
Rouen, 2 10¾
U.S.A., 1 11

Sulphuric Acid—
Madras, £30

Tallow—
Oporto, 1 t. 1 c.

Tar Oil—
Hamburg, 15 c.

TYNE.

Week ending May 14th.

Alkali—
Amsterdam, 69 t. 10 c.
Gothenburg, 5 7
Rotterdam, 10 1
St. Petersburg, 78 3

Alum Waste—
Montreal, 37 t. 13 c.

Alumina Sulphate—
Montreal, 12 t. 5 c.

Ammonium Carbonate—
St. Petersburg 45 t.

Ammonium Chloride—
St. Petersburg, 81 t. 16 c.

Ammonium Sulphate—
Odense, 5 t.

Anthracene—
Rotterdam, 80 t. 8 c.

Antimony—
Hamburg, 9 c.
St. Petersburg, 45 t.
Montreal, 10

Barium Binoxide—
Rotterdam, 4 t. 5 c.

Barium Chloride—
Montreal, 2 t.

Barytes—
Hamburg, 150 t.

Blanc Fixe—
Genoa, 10 t. 6 c.

Barium Carbonate (Native)—
St. Petersburg, 50 t.

Bleaching Powder—
Abo, 6 cks.
Amsterdam, 39 t. 16 c.
Antwerp, 66 19
Bergen, 18
Copenhagen, 21 10
Gothenburg, 115 12
Hamburg, 14 1
Rotterdam, 8 14
St. Petersburg, 394 19
Trondhjeim, 19 13

Carbolic Acid—
Rotterdam, 5 t. 6 c.

Castor Oil—
Montreal, 18 t. 5 c.

Caustic Soda—
Aalborg, 2 t. 12 c.
Abo, 3 8
Amsterdam, 19 18
Copenhagen, 2 18
Finland, 50 2
Genoa, 14 10
Gothenburg, 55 3
Hamburg, 72 15
Helsingfors, 18 7
Montreal, 14 10
Odense, 1 3
Roumania, 6 1
St. Petersburg, 170 11
Wyburg, 6 13

China Clay—
Rotterdam, 10 t. 2 c.

Colours—
Montreal, 1 t. 11 c.

Dyestuffs—
Logwood Extract
Stavanger, 6 c.

Iron Oxide—
Montreal. 18 c.

Linseed Oil—
Hamburg, 1 t. 2 c.

Litharge—
Amsterdam, 5 c.
Hamburg, 2 t. 7
Helsingfors, 5
Montreal, 48 8
Rotterdam, 5

Magnesium (Calcined)—
Antwerp, 4 c.
Genoa, 4
Rotterdam, 11

Manure—
Batoum, 19 t. 11 c.

Mercury—
Genoa, 10 c.

Paint—
Antwerp, 3 c.
Bergen, 10
Gothenburg, 4
Hamburg, 6 t. 14
Sebastopol, 6

Painters' Colours—
Antwerp, 7 c.
Hamburg, 2 t. 11

Potassium Bichromate—
Batoum, 1 t. 5 c.

Soda—
Abo, 6 t. 15 c.
Amsterdam, 86 4
Constantinople, 40 19
Copenhagen, 2 13
Finland, 9 18
Gothenburg, 8 12
Hamburg, 1 11
Helsingfors, 8 19
Rotterdam, 24 19
St. Petersburg, 20 5
Wyburg, 6 15

Soda Ash—
Abo, 104 t. 14 c.
Bergen, 10
Gothenburg, 90 19
Hamburg, 2 4

Sodium Hyposulphite—
Hamburg, 10 t. 6 c.
Montreal, 31 2
Oubeck, 10 4
San Francisco, 10 5

Sodium Silicate—
Hamburg, 1 t. 11 c.

Sodium Sulphate—
Porsgrund, 249 t.
St Petersburg, 20 2 c.

Sulphur—
Gothenburg, 270 t.

Tallow—
Helsingfors, 10 t. 3 c.

Tar—
Batoum, 2 t. 14 c.
Hamburg, 7

Varnish—
Hamburg, 4 c.

White Lead—
Hamburg, 4 c.
Montreal, 35 t. 2
Stavanger, 3 2

GOOLE.

Week ending May 11th.

Chemicals *(otherwise undescribea)*
Amsterdam, 6 cks.
Rotterdam, 25

Coal Products *(otherwise undes.)—*
Antwerp, 2 cks.
Boulogne, 15 5 ms.
Dunkirk, 24
Ghent, 1 c
Hamburg, 30
Rotterdam, 98 4

Colours—
Amsterdam, 1 ck.
Boulogne, 9 cs. 7 dms.
Hamburg, 2
Rotterdam, 13

Dyestuffs *(otherwise undescribed)*
Hamburg, 10

Manure—
Ghent, 195 bgs.

Pitch—
Antwerp, 905 t.

GRIMSBY.

Week ending May 14th

Chemicals *(otherwise undescribea)*
Antwerp, 12 btls.
Dieppe, 3 cs.

Coal Products *(otherwise undes.)—*
Dieppe, 26 cks. 2 cs.
Hamburg, 1 5 pks.
Rotterdam, 6

Colours—
Antwerp, 7 cks. 2 cs.

Pitch—
Antwerp, 56 t.

PRICES CURRENT.

WEDNESDAY, MAY 25TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 %, and 40 %	per cwt.	6/-	&	8/6
" Glacial	"		37	6
Arsenic S.G., 2000°	"	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
" (Cylinder), 30° Tw.	"	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	"	0	0	1¾
Oxalic	nett "	0	0	3¼
Phosphoric, 1750°	"	0	0	11¾
Picric	"	0	1	0
Sulphuric (fuming 50 %)	per ton	15	10	0
" (monohydrate)	"	5	10	0
" (Pyrites, 168°)	"	3	0	0
" " 150°	"	1	5	0
" (free from arsenic, 145°)	"	1	7	6
Sulphurous (solution) S.G. 1025	"	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	"	0	1	2
Arsenic, white powdered	nett per ton	17	15	0
Alum (loose lump)	"	4	10	0
Alumina Sulphate (pure)	"	4	0	0
Aluminoferric	"	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne "	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
" ·880=28° B.	"	0	0	2¾
" =24° B.	"	0	0	1¾
" Carbonate	nett "	0	0	3
" Muriate	per ton	17	10	0
" " (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
" Nitrate	per ton	31	0	0
" Phosphate	per lb.	0	0	3
" Sulphate (grey) London	per ton	9	6	3
" " (grey) Hull	"	9	5	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt "	"	0	0	5
Antimony	per ton	36	0	0
" (tartar emetic)	per lb.	0	0	6¾
" (golden sulphide)	"	0	0	10
Barium Chloride	per ton	7	0	0
" Carbonate (native)	"	3	10	0
" Sulphate (native levigated)	"	42/6	to	65/-
Bleaching Powder, 35 %	nett "	5	2	6
" Liquor, 7 %	"	3	10	0
Bisulphide of Carbon	"	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	"	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	"	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	1
" 50/90 "	"	0	1	2
Carbolic Acid (crude 60°)	per gallon	0	2	0
" (crystallised 40°)	per lb.	0	0	7
" (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	"	0	0	2½
" (filtered for Lucigen light)	"	0	0	4
Crude Naphtha 30 % @ 120° C.	"	0	0	5
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	"	0	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	3
Copper	per ton	51	2	6
" Sulphate	"	16	5	0
" Oxide (copper scales)	"	46	0	0
Glycerine (crude)	"	25	0	0
" (distilled S.G. 1250°)	"	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
" Sulphide (antimony slag)	"	2	0	0
Lead (sheet)	"	15	0	0
" Litharge Flake (ex ship)	"	17	10	0
" Acetate (white ")	"	26	0	0
" " brown ")	"	17	10	0
" Carbonate (white lead) pure	"	17	0	0
" Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	15	0
" " (grey) (ex ship	"	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
" Chloride (ex ship)	per ton	2	10	0
" Carbonate	per cwt.	1	17	6
" Calcined Magnesia	per ton.	8	0	0
" Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	"	17	10	0
" Borate	per cwt.	2	5	0
" Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	"	0	2	6
" " Miscible, 60° O.P	"	0	4	0
Oils:—				
Cotton-seed	per ton	17	5	0
Linseed	"	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
" (red)	"	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
" Carbonate, 90% (ex ship)	per ton	15	15	0
" Chlorate	per lb.	0	0	3¼
" Cyanide, 98%	"	0	1	3
" Hydrate (Caustic Potash) 90 %	per ton	23	0	0
" " (Caustic Potash) 75/80 %	"	19	0	0
" Potash Hydrate Liquid 50 %	"	11	0	0
" Nitrate (refined)	per cwt.	1	1	6
" Permanganate	per cwt.	3	2	6
" Prussiate Yellow	per lb.	0	0	6½
" Sulphate, 90 % (ex ship	per ton	9	15	0
" Muriate, 80 % do.)	"	8	15	0
Silver (metal)	per oz.	0	2	2½
Sodium (metal)	per lb.	0	2	9
" Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
" " (Caustic Soda-ash) 48 %	" " (f.o.r. w'ks.)	4	5	0
" " (Carb. Soda-ash) 48%	" " (f.o.r. w'ks.)	4	0	0
" " (Alkali) 58 %	" " (f.o.r. w'ks.)	4	2	6
" " (Soda Crystals)	" " (f.o.r. w'ks.)	2	5	0
" Acetate (ex-ship)	"	11	5	0
" Arseniate, 45 %	"	14	7	6
" Chlorate	per lb.	0	0	3¼
" Borate (Borax)	net, per ton.	12	10	0
" Bichromate	" per lb.	0	0	3
" Hydrate (77 % Caustic Soda) (f.o.b.)	net pr. ton (10 ton lots)	8	5	0
" " (74 % Caustic Soda)	" " " (10 ton lots)	8	0	0
" " (70 % Caustic Soda)	" " " (10 ton lots)	7	2	6
" " (60 % Caustic Soda)	" " " (10 ton lots)	6	2	6
" " (pure liquor 90° Tw.)	" " " (10 ton lots)	3	15	0
" 77/78 % powdered (99 % hydrate)	"	12	0	0
" Bicarbonate	"	6	10	0
" Hyposulphite	"	5	5	0
" Manganate, 25%	"	15	0	0
" Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
" Nitrite, 98 %	per ton	25	10	0
" Phosphate	"	9	10	0
" Prussiate	per lb.	0	0	5¾
" Silicate (glass)	per ton	4	10	0
" " (liquid, 100° Tw.)	"	3	7	6
" Stannate, 40 %	per cwt.	3	2	9
" Sulphate (Salt-cake)	per ton.	0	19	6
" " (Glauber's Salts)	"	1	7	6
" Sulphide	"	6	15	0
" Sulphite	"	5	0	0
Strontium Hydrate, 100%	"	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
" Barium, 95 %	"	0	0	4
" Potassium	"	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	"	6	3	9
" Brimstone: Best Quality	"	4	15	0
Superphosphate of Lime (26%)	"	2	10	0
Tallow	"	22	10	0
Tin Crystals	per lb.	0	0	5
" English Ingots	per ton	70	0	0
Zinc (Spelter)	"	19	5	0
" Chloride (solution, 100° Tw.)	"	6	0	0
" Sulphate, Crystal	"	6	5	0

THE

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AND

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LATE ADVERTISEMENT.

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Advertisements intended for insertion in the current week's issue should reach the office by **Thursday morning** at the latest.

BORACIC ACID IN FOOD.

FROM time to time we have considered the question of the use of boracic acid as a preservative in foodstuffs, and on most occasions our remarks have been based on what we believe is a sound doctrine in considering such matters—namely, that in the absence of definite evidence to the contrary it is always advisable to check rather than foster the use in food of chemicals, that are liable to have a prejudicial effect upon health.

In connection with the prosecutions of the last two years we have more than once lamented the absence of definite medical testimony, and pointed out the importance of eliciting statements of fact from those who have made experiments and observations on the internal administration of borax and boracic acid. Our plaint is fully justified by Dr. Redwood, the Emeritus Professor of Chemistry to the Pharmaceutical Society, who concludes a report on the use of borax in food by emphasising the rather singular absence of investigations, or direct observations, as to whether the habitual employment of boric acid is injurious to health.

In a recent issue we gave prominence to the opinions expressed by Drs. Lough and Vachell; but there are always two sides to a question, and the publication of the evidence of these doctors has brought us a pamphlet from the Federation of Grocers' Associations dealing with Boron food preservatives and their influence on the human organism.

We have also acted as requested by giving the pamphlet a very careful perusal, and frankly admit that as far as general testimony in favour of the use of borax is concerned the pamphlet contains much that is convincing, and affords a sufficient answer to the criticisms of Drs. Lough and Vachell, till references to specific cases of injury to health are forthcoming.

As far as we are concerned, however, the matter practically remains where we last left it when dealing with the question editorially.

In 1896 we expressed the opinion that there was no objection to the use of 30 grains of boracic preservative to the pound of butter, because to the average butter eater it meant a dose of 7 to 8 grains per diem, while the medical dose ranged from 5 grains to 30. Our contention at that time was only qualified by one reservation, and that was the production of definite medical evidence proving that this amount of boracic acid was hurtful to health. In the face of the recent medical testimony for and against we still adhere to our belief of two years' standing.

But it is only *our* belief; and what we have always wanted was a definite understanding as to the *maximum* amount that might be used with safety to preserve foodstuffs. Last February we formulated this need, because we deemed it necessary to condemn the use of 63 grains to the pound. The choice of 30 grains as a *maximum* is easily explained by reference to any reliable work on *materia medica*. Borax is

used as a medicine, and the amount used for preserving food should be low enough to prevent butter or milk becoming a medicine.

Now, while allowing that the pamphlet we have referred to gives an ample reply in general to the objections raised against the use of borax, we still contend that it leaves our argument unaltered. There is plenty of testimony to the effect that, generally speaking, no evil has resulted from its use; but Dr. Chittenden concludes his extensive experiments, which justify its use, by saying "when present in moderate quantities." What is that quantity? We want it fixed. The evidence of Drs. Bond and Oliver Pemberton is helpful, and favours our standard. M. de Cyon goes a good deal higher. Let the Grocers' Federation obtain a general expression of medical opinion on this point of the *maximum* safety limit, and they will have brought the whole matter within the compass of a nutshell.

We say a general opinion, because we notice that 15 out of 21 of the medical men whose opinions are cited in this pamphlet are practically Birmingham men, and it is common knowledge that the past history of the Birmingham district in regard to this matter makes it desirable for the opinions to be culled from a less limited area.

Personally we are inclined to think that a widespread invitation of opinions on 30 grains as a *maximum* would result in a large majority in its favour. It would then be easy to show magistrates how such opinions simplified matters for them.

CHEMICAL AND MINING INDUSTRIES AT PIRÆUS.

THE development of trade at the Piræus has been more noted than ever, and the following establishments were opened last year: a cloth mill, a soap manufactory, three distilleries, a steam saw mill, a linseed oil manufactory, and a manufactory for chemical products.

The following is an abstract of the industries, and number of works now in operation:

Industry.	Number of Mills.
Engineering shops and iron foundries	9
Steam flour mills	14
Distilleries	27
Soap manufactories	4
Paper mill	1
Glass factory	1
Tanneries	2
Dynamite manufactories	2
Lucifer match manufactories	1
Dyeing Works	8

At Laurium, in the same district, new sources of mineral wealth have been discovered of some importance, which have repaid for the explorations made in the north and south districts, good veins of manganese iron and hematite ore have been found, whilst calamine or zinc ore becomes more and more scarce, and is now reduced to less than half the production of former years. As seen by the following table the total output of marketable ores reached in 1897, 376,597 tons, as against, 323,041 or 53,556 tons more than in 1896:—

	Tons.
Manganese iron ore, raw	147,789
,, ,, roasted	45,000
Hematite	136,811
Calamine or zinc ore, roasted	24,830
Silver lead ore	9,660
Rich galena, dressed	6,915
Blend of zinc and lead ore	3,084
Lead smokes	2,508
Total	376,597

The above total, consisting of purely marketable ores, does not include the annual production of poor lead ore grounds and carbonates, which amounted to 409,085 tons, containing three to five per cent. lead, which when dressed by mechanical washing was reduced to 287,693 tons, and out of which 16,074 tons of pig lead were obtained, containing from 2,100 to 2,915 grammes of silver to the ton.

MANGANESE IN THE CAUCASUS.

NOT at any time since the discovery of manganese deposits in the district of Sharopan, was the industry in so deplorable a condition as in the year 1897; in fact, it may be said that the lamentable state of affairs into which it had been allowed to drift during the past few years, had reached its culminating point in the past year, bringing ruin on a large proportion of the smaller traders and mine-owners who, owing to ill-judged competition among themselves, and the absence of the necessary means wherewith to tide over the existing crisis, were compelled to have recourse to the habitual measure in this country, and in the month of May an extraordinary meeting of the manganese ore mine owners was called for the purpose of drawing up a report with a view to placing the existing critical condition of affairs before the Government.

In this report it was represented that at the time of the construction of the Chiatur branch of the Trans-Caucasian railway and the fixing of the tariff for the transport of manganese, an unshaken conviction existed that the Russian trade would have no serious competition in the markets of the world, and that it would therefore not be a wise policy to apply the normal railway tariff in respect to the transport of this ore, and consequently the exceptionally high rate of 10 c. (2¾d.) per pood (36 lbs. avoir.) was fixed upon for transport on the branch line.

In the course of a short space of time, however, it became evident that Russia was not, by a long way, the only country in the world in which manganese ore deposits existed, and that from day to day other sources from which supplies of this mineral could be obtained were being developed and were seriously competing in the European and American markets with the Russian product, bringing about an over-production as compared with the demand, and causing market prices to decline within a period of five years to the extent of over 25 per cent.

Under these circumstances, the members of the committee of the trade came to the conclusion that it was absolutely necessary to submit the following five suggestions to the consideration of the extraordinary meeting:—

1. The necessity for a reduction in the existing tariff on the Chiatur branch of the railway for the transport of the ore, from 10 c. (about 2½d.) to 3 c. (about ¾d.) per pood.

2. The advisability of constructing properly macadamised roads between the mines and the line of rails, with a view to bringing about, by this means, a reduction on the cost of transport from the mines to the railway.

3 The propriety of organising a committee for the protection of the mines for the purpose of regulating the production of manganese ore, and the curtailment of the unlawful and illicit exploitation of the mines.

4. The exigency of organising one general syndicate, and thus concentrating the sale of Caucasian manganese into one channel.

5. The expediency of granting a credit to the industry which would be proportionate and adequate to the requirements of the proposed syndicate.

The above suggestions were duly forwarded to Government with the request that the concessions therein enumerated for the improvement of the industry and trade should receive the favourable consideration of the higher authorities in St. Petersburg.

The exports of manganese from Poti and Batoum were as follows:—

	1893. Tons.	1894. Tons.	1895. Tons.	1896. Tons.	1897. Tons.
Great Britain	42,930	65,11	60,6160	77,754	68,[illegible]
France	4,100	..	150	5,650	..
Russia	..	9,890	9,600	20,175	28,4[illegible]
Belgium	3,125	2,520	..	220	..
Germany	40,405	51,455	59,565	58,925	70,8[illegible]
U S.A.	36,070	28,300	55,787	3,600	42,2[illegible]
Total	126,630	157,275	185,718	166,324	210,1[illegible]

This table shows a considerable increase in favour of the past year, but it has only been gained at the expense of enormous sacrifice to some of the dealers in this country. The price of manganese at Poti has been about 2 c. per pood less than the actual cost of production, including the cost of transport to that port.

Further deposits of manganese ore are to be found in the Trans-Caucasus, among which is an extensive seam that exists at a distance of about fifty miles from Batoum along the valley of the River Tchoroukh. A good vehicle road leads up to the spot where the mines are situated, and the quality of the ore has been found to be superior to that procured at Tchiatur. English capital has been placed in these deposits, which are now being exploited, some of the ore having already found its way to Batoum, which will in future be the shipping port for all ore coming from that district.

CHESHIRE CHEMICAL TRADE.—The important award given in favour of Messrs. Bowman, Thomson, and Company, Lostock Gralam, Northwich, will, it is authoritatively stated, lead to large additions in various portions of their works for processes outside the agreement. They have a project of great magnitude in contemplation.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Manufacture of Peat Fuel. W. Smith. 11,107. May 16.
Treating Coppermatte. J. Colquhoun. 11,180. May 17.
Improved Paint. R. Norwood. 11,234. May 17.
Producing Ozone. M. Otto. 11,283. May 17.
Manufacture of Peat Fuel. A. E. E. Cantley and E. Springborn. 11,285. May 17.
Ventilating and Drying Apparatus. J. Dean and J. Pollard. 11,323. May 18.
Liquid Measuring Apparatus. H. Sutcliffe. 11,390. May 19.
Rotary Pumps for Corrosive Liquids. J. H. and F. Riley. 11,392. May 19.
Coke Ovens. F. J. Collin. 11,439. May 19.
Refrigerators. J. B. Schäfer. 11,443. May 19.
White Lead Paint. T. C. Sanderson. 11,447. May 19.
Manufacture of Celluloid. C. G. Hagemann and F. O. C. Zimmermann. 11,456. May 20.
Treating Sewage. F. M. and D. D. Spence 11,463. May 20.
Treating Complex Zinc and Lead Sulphide Ores. C. T. J. Vautin. 11,507. May 20.
Treating White Lead. T. C. Sanderson. 11,522. May 20.
Improved Explosive. G. Pinder. 11,496. May 20.
Ore Roasting Furnaces. D. W. Prosser. 11,508. May 20.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

A Process for Chlorination of Wool. O. Imray, 28, Southampton Buildings, Chancery-lane, London (communicated by Farbewerke vorm. Meister Lucius and Brüning, Germany). Eng. pat. 11,917. May 13, 1897.

This patent is based on the researches of Knecht and Milnes, published in the Journal of the Society of Chemical Industry, relating to the action of chlorine on wool. Moist wool is exposed to chlorine gas in a closed vessel, whereby it is bleached, given a gloss, robbed of its felting tendencies, and made more absorbent to dyestuffs. The damper the wool the quicker the action of the chlorine, of which 5 litres per kilo of wool is the *minimum* amount for successful treatment, and 25 litres the *maximum* without damaging the fibre. Dyed wool may be treated in the same way, as many dyestuffs resist the action of the chlorine. Particulars of quantities, etc., are given for producing a silk gloss on 35 kilos of woollen knitting yarn. Designs may be produced by printing woollen goods with a thickened solution of calcium or magnesium chloride and drying, when only the printed parts are acted on. If aluminium acetate is used the unprinted parts are affected.

Improvements in Apparatus for Treating or Maturing Fluids containing Alcohol. A. J. Boult, 111, Hatton Garden, London (communicated by G. R. Besser, 47, Georgenstrasse, Berlin). Eng. pat. 13,435. May 31, 1897.

The apparatus is a modification of that described in patent 7,813/95, in the increased size of the cooling coil and the arrangement of the poles. The treatment consists in impregnating the fluid with oxygen and passing an alternating current of electricity. The coil acts as one pole, the other pole consisting of a special wire fixed near the sides of the containing vessel. A cooling agent is circulated through the coil to neutralise the heat generated by the current. There is one figure.

Improvements in the Manufacture of Cement. C. E. Lee, 275, Water-street, N.Y., and C. F. Lawton, also of Water-street, New York. Eng. pat. 24,179. Oct. 19, 1897.

About three gallons of a 17 per cent. solution of sodium tetra-silicate is mixed with 3 lbs. of powdered chalk, 12 lbs. of fine quartz, and 3 lbs. of a mixture, made by fusing in a crucible 60 parts of quartz, 28 of lime, 34 of alumina, and five of calcined sodium carbonate. When these have been well mixed, 1 lb. of anhydrous antimony oxide (Sb_2O_5) ground in 10 ounces of water is thoroughly incorporated, and the whole run through a paint mill, forming a thick, smooth, pasty mass, which constitutes the cement. Details of the production of the sodium silicate are given.

Improvements in the Treatment of Night Soil. J. Royston, 5, Cottingham-street, Attercliffe, Sheffield. Eng. pat. 17,853. July 30, 1897.

Only a few details supplementing patent 16,078, 1896, are covered in this specification. The receptacle is lined with paper instead of being greased, so as to prevent sticking. The separate sterilisation of each vessel is supplanted by a chamber system, in which a number of buckets can be sterilized at once, either by steam or direct fire. There are four figures.

Improvements in Ice Safes. J. W. Sutton, 199, High Holborn, London. Eng. pat. 14,164. June 10, 1897.

The safe is divided vertically into two compartments, and horizontally into several compartments, the horizontal partitions being perforated. Air is drawn down over the ice block in the head of the safe and sucked away by a clock-work fan at the top of the second vertical compartment. The fan is worked on the same lines as the Wanzer lamp. There are four figures.

THE BADEN CHEMICAL TRADE.

THE chemical industries here have suffered by the higher cost of raw materials while lower prices had to be conceded for most of the products. The great coal-tar colour factories were in sharpest competition, but they continue to pay large dividends, and may do so for some years to come. The *soda* market was affected by sharper competition of English makers, and also by the opening of a new factory in Elsass. At present prices the Lebianc soda makers, it is said, cannot exist. An agitation of the *soap* manufacturers for a reduction or abolition of the duty caused, therefore, much disquiet, as such a measure, it is maintained, would ruin the German soda interest. The manufacture of *sulphuric acid* was but slightly remunerative, and *superphoshates* suffered severely by an invasion of the Belgium article, assisted by a reduction of railway freight of 20 per cent on artificial manures. *Heavy chemicals* in general were hit by the United States Tariff.

The number of new chemical products introduced now year after year is really astonishing, and attests to the boundless resources of chemistry, the great industry of the future, worth probably far more than all the goldfields of the world put together. It will be strange indeed if Great Britain, with so many advantages in her favour, does not achieve in it an ample equivalent for any diminution to her iron and cotton staples. Energy and training may be at present wanting, or perhaps only the training, and that can be acquired. From England, Germany has borrowed so much that England need not be reluctant at borrowing from German skill and experience.

THE PENDING NITRATE COMBINE.

SPEAKING at the annual meeting of the Nitrate Railways Co. held last week, Mr. R. Harvey (the Chairman of the Co.) made the following reference to the attempts which are being made to recusitate the nitrate *convenio*. He said, I am induced to hope that with the starting of the large and rich Alianza Works our traffic from June to December will show a material increase over that of last year. At any rate we shall have a larger proportion of down to our up traffic, as there has been an entire suspension of the erection of new works, or of the enlargement of the existing oficinas, during the last few months owing to the extraordinary low prices ruling. For those shareholders who are not nitrate company shareholders doubtless this explanation is quite pleasing; but quite the contrary effect will, I fear, be produced among those gentlemen who may happen to be substantial holders in nitrate-producing companies.

Great efforts are being made by many producers to re-form the nitrate combination, and so reduce the production to the bare requirements of the world's market, raise the selling price, and distribute the *quotas* of production fairly amongst all the producers—which possibly may be realised in the not distant future.

NO LIMITATION THIS YEAR.

But to judge from appearances and from preparations and sales made by the cheaper producers, I am inclined to believe that no such limitation and distribution will affect our traffic this year. The foregoing is a brief outline of the present condition of affairs, and the references to the future express my opinion only, and with which I do not wish to identify my colleagues, as probably their opinion on this subject may differ from mine, and it is quite possible that they have decided to limit their thoughts to the present, and to trust to good management, care, and economy, for our protection in the future. My ideas are those of your chairman and as those of a nitrate railway director, and not as a nitrate producer and one who is interested in old and dear nitrate-producing companies as well as in modern and cheap ones, and I mention this merely that my remarks may not be misjudged, and that I speak now entirely in my railway, and not my nitrate-making capacity. Should we be so fortunate as to secure an increased traffic it will make a considerable difference to our financial position.

THE CHEMICAL SOCIETY.—The Chemical Society's banquet to Lord Playfair and six other past presidents who have completed fifty years' fellowship of the Society is to be held at the Hotel Metropole, London, on Thursday, June 9th.

Legal Intelligence.

SUPREME COURT OF JUDICATURE.

COURT OF APPEAL.

(Before Lord Justice A. L. Smith, Lord Justice Chitty, and Lord Justice Vaughan Williams.)

THE BADISCHE ANILIN UND SODA FABRIK *v.* LA SOCIETE CHIMIQUE DES USINES DU RHONE AND JOHN D. WILSON.

THIS was an appeal from the judgment of Mr. Justice Wills at the trial of the action without a jury. The action was brought for an injunction to restrain the defendants from importing into England, and from manufacturing, selling, supplying, or using in England, certain dyes sold by the defendants under the name of anisoline and tri-anisoline, and manufactured according to or in manner described in the specifications filed in pursuance of the plaintiffs' letters patent No. 15,374 of 1887 and No. 9,633 of 1892. Originally the substantial complaint of the plaintiffs was that the anisoline produced by the defendants was an infringement of the patent No. 15,374 of 1887, known as "the old rhodamine patent" or as "the master rhodamine patent," originally brought out and discovered by the plaintiff company, and that the tri-anisoline produced by the defendants was an infringement of the patent No. 9,633 of 1892, known as the 6G patent. The validity of the old rhodamine patent was admitted, and therefore the only question arising upon the patent was one of infringement; but the validity of the 6G patent was disputed, the contention of the defendants being that the information given to the public under Monnet's specification, 4,677 of 1892, was such that the plaintiff company's invention, which they patented at a later date, had been anticipated. At the trial, however, the plaintiffs admitted that as to the patent No. 15,374 of 1887 the complaint had been satisfactorily answered, and that judgment must be given for the defendants. During the trial the defendants by amendment, allowed upon terms, raised an additional objection to the plaintiffs' patent No. 9,633 of 1892—viz., that as to examples two and three, therein given as illustrating the application of the invention to particular cases, the specification was insufficient. Mr. Justice Wills held, with regard to No. 9,663 of 1892, that the defendants' case of anticipation failed, and that there had been an infringement by the defendants, but that the defendants had succeeded in showing that the specification was insufficient in respect of sample two. Judgment was therefore entered, as to that patent, for the defendants upon the question of validity in respect of the particular objection of insufficiency so far as it related to example two, and for the plaintiffs on all other issues. As to the other patent, No. 15,374 of 1887, judgment was entered for the defendants. The plaintiffs appealed against so much of the judgment as adjudged that the patent No. 9,633 of 1892 was invalid for insufficiency of specification.

In the course of his judgment Lord Justice A. L. Smith said:—This appeal raises two short points in a very long case, and the first is—What is the true construction of the words in the plaintiffs' specification, "heat one part of hydrochlorate dissolved in about four parts of alcohol in an autoclave?" Do they mean that the ingredients are to be heated in an autoclave made solely of iron and no other, or do they mean that they may be heated in any autoclave, whether made solely of iron or not? The way in which the point arises, as far as my experience goes, is unique. The action is an action for the infringement of a patent covering the production of a dye called 6 G. di-alkyl rhodamine ester, and this action, together with a kindred action, which was its forerunner, occupied my Brother Wills no less than 28 days in trial. The learned Judge ultimately found all issues originally raised in this action by way of defence against the defendents, but towards the close of the trial an entirely new and previously undiscovered fact arose, and it is by means of this discovery and its bearing upon the case that the learned Judge has entered judgment for the defendents upon an amended defence, against which judgment the plaintiffs appeal. In the plaintiffs' specification, example 2, which is the matter in question, it is specified as follows:—"Heat about one part of di-ethyl rhodamine hydrochlorate dissolved in about four parts of ethyl—or methyl—alcohol in an autoclave for about ten hours at a temperature of about 150 degrees centigrade and work up as described in example 1." It will be seen that this specification specifies for two components and two only whereby to produce the desired product (6 G. ester), the one being di-ethyl-rhodamine hydrochlorate, the other being ethyl—or methyl-alcohol. The defendants denied that these two components would produce the pure product as stated by the plaintiffs, and to reconcile the conflicting cases further experiments were made during the progress of the trial, when the plaintiffs for the first time discovered that the two components which they had specified for in their specification—that is, di-ethyl hydrochlorate coupled with ethyl—or methyl—alcohol—would not bring about the claimed result, and that to do so there must be introduced a third component, viz. iron, by the introduction of which, in addition to the two other components, could the pure product alone be produced. Upon these facts coming out the defendants at once took the somewhat obvious objection that the plaintiffs' specification is insufficient, for it mentioned nothing about iron, and it claimed for the production of the product by means of the two components, and of them alone heated in an autoclave, whereas the plaintiffs themselves had proved the necessity of a third component, viz. iron, and had admitted that the two components by themselves would not affect the purpose. My brother Wills thereupon allowed the defendants to place upon the record a plea of insufficiency of description in the plaintiffs' specification, and made an order as to costs, with which we have nothing to do. My brother Wills decided against the plaintiffs on the ground of insufficient description in the specification, and I agree with him. In my judgment it is clear that the words "to heat in an autoclave" mean to heat in any autoclave, of course of sufficient strength, and which is used for this class of dye making. There cannot, in my opinion, be found in the words "to heat in an autoclave," a direction to heat in an autoclave composed solely of iron and no other. It was argued that the words "to heat in an autoclave" meant in the autoclave most commonly in use, and therefore in an autoclave composed solely of iron. I cannot find this; the words are general. Moreover, there is in this case the undoubted fact, overriding all the parol evidence, that the dye chemists who experimented in this case did so with the equivalent of an autoclave not composed solely of iron, viz., with sealed up glass tubes, which clearly demonstrates to me that not one of these eminent men considered the direction to "heat in an autoclave" in the specification was a direction to heat in an autoclave composed solely of iron because iron was an essential, for it is inconceivable to me, if they had so thought, that they should one and all have experimented in an equivalent to an autoclave not made solely of iron. There was a further point sought to be raised by the plaintiffs, which was, that if this specification was insufficient for the reason above mentioned, yet their specification was sufficient for producing an ester containing a large amount of impurity and consequently their patent should be upheld. But it was pointed out by Mr. Moulton, for the defendants, and admitted by Mr. Cripps, for the plaintiffs, that the plaintiffs' case before Mr. Justice Wills throughout had been that in their specification they specified for pure ester and for that alone. It was said that as regards the production of impure ester that had been anticipated, and it was on that ground that pure ester alone was claimed for that Mr. Justice Wills had found the plea of anticipation against the defendants. We considered that this second point was not now open to the plaintiffs upon this appeal, and that it wholly failed them. In my judgment, for the reasons above, this appeal must be dismissed with costs.

Lords Justice Chitty and Vaughan Williams delivered judgments in which they arrived at the same conclusion.

HIGH COURT OF JUSTICE.

CHANCERY DIVISION.

(Before Mr. Justice Romer.)

HODGSON AND SIMPSON *v.* KYNOCHS, LTD.

This action was brought to restrain Messrs. Kynoch, Ltd., ammunition manufacturers, who have established soap works in connection with their Lion Works at Witton, near Birmingham, from selling their soap so as to lead to the belief that it was of the plaintiffs' manufacture—*i.e.*, their "Lion" Brand.

Mr. Justice Romer, in delivering his deferred judgment (*C.T.J.*, 567, p. 236), said he had come to the conclusion that the plaintiffs were entitled to some relief It could not be disputed that the use of the lion's head on the defendants' soap was intended to associate their soap with the lion. That was admitted in cross-examination by the secretary of the defendant company. But on the part of those acting for the defendants in this matter it was suggested that they were justified in desiring to associate their soap with the lion because their well-known ammunition works were known as the Lion Works, and the lion was connected with them in the manufacture of their ammunition. But it was curious that men of business should have failed to see that that was really no justification under the circumstances. He must acquit the defendant company of any deliberate intention of obtaining for their soap the name and reputation of the plaintiffs; but he thought they acted carelessly, and without sufficient regard to the plaintiffs' rights, and they seemed to have overlooked the consequences resulting to the plaintiffs. He would grant an injunction restraining the defendants from selling any of their soap in any of the four wrappers with the lion's head on them, or so as to induce the belief that any such soap was manufactured by the plaintiffs. As there was no case of any actual purchaser having been misled, he thought that if the plaintiffs insisted on more than nominal damages, and asked for an inquiry, he must grant it, reserving the costs. As the plaintiffs had substantially succeeded, the costs of the action must be paid by the defendants. As what the defendants had been doing did not amount to an infringement of trade mark, and the costs had not been materially increased, he made no special order as to that.

Mr. Neville, Q.C., on behalf of the plaintiffs, asked that they might have an account of profits without an inquiry as to damages; but Mr. Justice Romer declined to do this, and ordered an inquiry as to damages.

THE CODIFICATION OF COAL ANALYSIS.

AT the Cleveland meeting of the American Chemical Society a Committee, consisting of W. F. Hillebrand, C. B. Dudley and W. A. Noyes, was appointed to consider the methods of proximate analysis of coal with a view to the adoption, if possible, of uniform methods for this country. After discussion among themselves, the committee have formulated the following outline of methods for analysis which they herewith submit, rather as a means of securing further information than as a final report. The committee very earnestly request all chemists interested in the matter, who may see this report, to send to the chairman of the committee a criticism of the methods proposed and a statement of any objections they see, and of any modifications which they think desirable.

Since the literature of the subject is widely scattered and much of it is not easily accessible, the committee request that all who have published papers bearing on the subject will, if possible, send to the committee reprints of such papers, or, if that cannot be done, a statement of where such papers can be found and the points covered.

Without the full and hearty co-operation of others the labours of the committee will be greatly increased and the conclusions finally arrived at will be less representative of general experience than it is desired they should be.

METHODS OF ANALYSIS.

1. *Sampling.*—At least five pounds of coal should be taken for the original sample, with care to secure pieces that represent the average. These should be broken up and quartered down to obtain the smaller sample which is to be reduced to a fine powder for analysis. The quartering and grinding should be carried out as rapidly as possible, and immediately after the original sample is taken, to prevent gain or loss of moisture. The powdered coal should be kept in a tightly stoppered tube or bottle till analyzed.

2. *Moisture.*—Dry one gram of the coal in an open porcelain or platinum crucible at 104°—107° for one hour, best in a double-walled bath containing pure toluene. Cool in a desiccator and weigh covered.

QUESTION.—Has any one experience with other methods of drying? over sulphuric acid, *in vacuo*, in a current of air, in watch-glasses, or otherwise? Especially in this and other cases the committee desire any comparative results which can be furnished.

The following comparison of the effect of drying one hour in a toluene bath, twenty hours *in vacuo* over sulphuric acid, and in air over sulphuric acid, was made by Dr. Hillebrand :—

	One hour in toluene bath.	20 hours *in vacuo* over H_2SO_4.	In air over H_2SO_4. 2 hrs.	48 hrs.	120 hrs.
Coal No. 1	2·85	3 60	2 87	3·15	3·39
,, ...	3·10	3 59	....	....	....
,, ...	3·23	3·57	....	....	....
,, ...	3·25	3·49	....	....	....
,, ...	3 24	....	....	....	....
,, ...	3·22	....	....	....	....
,, ...	3·27	....	....	....	....
Coal No. 2	1·84	2·08	1·77	....	2·00
,, ...	1·83	2·07	....	....	....
Coal No. 3	1·52	1·75	1·42	....	1·70
,, ...	1·51	1 73	....	....	....
Coal No. 4	1·01	1 04	1·05	....	1·18
,, ...	1 08	1·03	....	....	....
Coal No. 5	1·40	1·69	1·45	....	1 66
,, ...	1·41	1·67	....	....	....
,, ...	....	1 67	....	....	....
Coal No. 6	0·30	0·21	0·23	....	0·25
,, ...	0·34	0·28	....	....	....

These results seem to indicate that drying *in vacuo* gives higher and, probably, more correct results than drying at 105° for one hour.

The following experiments were carried out by Mr. W. E. Burk at the Rose Polytechnic Institute, for the purpose of determining whether volatile matter other than water is lost in drying bituminous coals. A hard glass tube was partly filled with copper oxide, partly jacketed with a glass sleeve so that a portion could be heated to 100° by a current of steam. The coal was weighed in an aluminum boat enclosed in a weighing tube, and was then heated to 100° for an hour in a current of dry air. The moisture and any volatile matters which were expelled were passed over the heated copper oxide and the water and carbon dioxide were absorbed as usual in calcium chloride and in potash bulbs. The results were as follows :

Weight of coal taken.	Loss in weight of coal at 100°.	Water found in calcium chloride tube.	Per cent. of water in coal.	Per cent. of carbon found in potash bulbs.	Per cent of excess of hydrogen found.
1·4217	0·1994	0·2014	14·00	0·048	0·016
1·1195	0·1596	0·1625	14·25	0·058	0·029
3·1079	0·2111	0·2113	6·78	0·022	0·001
3·2356	0·2152	0·2142	6·65	0·025	.....
2·9408	0·1967	0·1967	6·65	0·037	.....

The amount of moisture found was slightly higher than was found in the same coal by the usual method, perhaps because of the current of dry air over the coal. Since the loss of volatile matter other than water was always less than one-tenth per cent., it can safely be disregarded for most practical purposes, with coals of this class.

3. *Volatile Combustible Matter.*—Place one gram of fresh undried coal in a platinum crucible, weighing twenty to thirty grams and having a tightly fitting cover. Heat over the full flame of a Bunsen burner for seven minutes. The crucible should be supported on a platinum triangle with the bottom six to eight cm. above the top of the burner. The flame used should be twenty to twenty-five cm. high when burning free, and the determination made in a place free from draughts. The upper surface of the cover should burn clear, but the under surface should remain covered with carbon. To find "Volatile Combustible Matter" subtract the per cent. of moisture from the loss found here.

QUESTIONS.—Should a larger portion be taken? Should the coal be heated more gradually at first? Should a blast be used? Can results be obtained by heating in a muffle, or in any other manner, which will agree with those obtained by this method?

The committee consider the determination as largely arbitrary, in any case, and believe that uniform results in the hands of different chemists will be best secured by making the conditions as simple as possible. The most serious objection to the method proposed appears to be the danger of mechanical loss at the commencement of the heating. It is believed, however, that the error from this source is less than would arise from any method which leaves the application of the heat to the judgment of the operator.

The committee especially desire to secure any analytical data which may be available to show the degree of concordance of results obtained by the same or different chemists. Also any comparison of analytical results with results of commercial coking.

4. *Ash.*—Burn the portion of coal used for the determination of moisture, at first over a very low flame, with the crucible open and inclined, till free from carbon. If properly treated, this sample can be burned much more quickly than the dense carbon left from the determination of volatile matter.

QUESTION.—Are carbonates likely to be present in the ash in such amount that heating over a blast would lessen the weight appreciably?

When the sulphur in the coal is in the form of pyrites, that compound is converted almost entirely into ferric oxide in the determination of the ash and, since three atoms of oxygen replace four atoms of sulphur the weight of the ash is less than the weight of the mineral matter in the coal by five eighths of the weight of the sulphur. While the error from this source is sometimes considerable, the committee is not now prepared to recommend such a correction.

5. *Fixed Carbon.*—This is found by subtracting the per cent. of ash from the per cent. of coke as found in paragraph 3.

6. *Sulphur.*—What methods are used? Eschka's, with sodium or potassium carbonate, fusion with sodium carbonate and potassium nitrate, Carius' or others? Any comparative results are especially desired.

7. *Heating Efficiency.*—The committee would recommend that the heating effect be calculated on the basis of the coal burned to carbon dioxide and vapour of water at 100° C., and be stated either in calories per kilogram or English heat units per pound. The theoretical evaporative effect is to be calculated by dividing the number of calories per kilogram by 536 or the number of English heat units per pound by 965. In either case it expresses the theoretical number of kilograms or pounds of water converted into steam from and at 100° C. by one kilogram or pound of the coal.

A calculation of the results of twenty-one analyses, and determinations of heating effect with the bomb calorimeter, made with Indiana and Pittsburg bituminous coals, shows that the heating effect may be found in all cases examined, with a maximum error of two per cent., by the following rule :

Subtract from 100 the per cents. of moisture and ash and one-half the per cent. of sulphur, and multiply the remainder by 80·7. The product will be the heating effect of the coal burned to vapour of water, expressed in calories.

The committee will be glad of any data which will enable them to further test this factor and also of any data with regard to other methods of determining heating effect.

Persons interested in the subject of coal analysis are requested to send any communications which they may wish to make, to Prof. W. A. Noyes, Rose Polytechnic Institute, Terre Haute, Ind.

EXPLOITING PETROLEUM.—H. A. Burls, an English oil expert is about to investigate the petroleum fields discovered last year in south-eastern Alaska, near the copper River. Mr. Burls represents Mr. Boverton Redwood. One field is in the neighbourhood of Chilkat Lake and Catalla Bay, the latter being landlocked and affording a good anchorage. Oil is found in many springs at the east end of the bay. The second district is near Yakutat Bay.

Agricultural Notes.

FERTILIZING PASTURE AND CROPS.

THE fourth annual report of field experiments carried out by the agricultural departments of the University Extension College, Reading, contains much matter of practical interest. The investigations were commenced in 1894, the County Councils of Berks, Dorset, Hampshire, and Oxfordshire co-operating with the college. The report is written by Mr. D. A. Gilchrist, who has had associated with him in the field work Mr. P. H. Foulkes and Mr. F. P. Walker.

Pasture.—Experiments at 14 centres on the manuring of pastures demonstrate the value of phosphatic manures, and particularly of basic slag for this purpose. In the case of a rough and benty pasture a good harrowing in spring, followed by a dressing of basic slag proved very effective. The inclusion of sainfoin and lucerne in a mixture of grass seeds for a few years' ley gave satisfactory results, as regards both the bulk and the quality of the hay.

Crops—Experiments at 11 centres gave results indicating that heavy manuring of turnips and swedes is not, as a rule, profitable in the four southern counties concerned. Finger-and-toe was observed to be most prevalent on soils deficient in lime, and any form of lime, such as hot lime, chalk, or gas lime, when thoroughly mixed with the surface soil, will do much to check the disease. In some investigations into the manuring of the potato crop the experimenters had the co-operation of Mr. Arthur W. Sutton, and the general results indicate that the tuber crop does best on land enriched with the manuring of previous crops; that on such enriched land the direct application of many artificial manures to the potato crop may do harm, especially where there is a comparatively dry soil and climate; that on soils in rather poor condition the crop of potatoes can be much increased by the judicious application of artificial manures; and that on the whole the most generally useful manure for potatoes is a dressing of 12 tons of farmyard manure, 1½ cwt. of nitrate of soda, 3 cwt. of superphosphate, and 1 cwt. of muriate (chloride) of potash per acre. The experiments with mangel over the four seasons have given results which tend to show that the crop does well with farmyard manure and a complete dressing of artificials, but that of the two nitrogenous salts, nitrate of soda and sulphate of ammonia, the former is probably the preferable form.

TOMATO BLIGHT.

Tomato-growing has become so general and continues to extend so rapidly that any reliable information as to how the crop may be protected against its natural enemies should be welcome. Like its near allies the potato and the tobacco plant, the tomato is liable to serious injury through the ravages of fungus pests. The leaf-blight disease of tomatoes begins by attacking the older or lower leaves first, and then extends upwards to the younger parts of the plants. The injured leaves gradually lose colour and become thickened and curled at the margins. Brown spots next appear, and ultimately the leaves die and fall off, the plant being thus rendered incapable of producing and ripening fruit. Tomato blight may arise from the use of seed from diseased and enfeebled stock. It may be contracted through the agency of spores which linger in the soil upon which diseased plants have been grown. The potato and other solanaceous plants are also liable to attack from these spores—a circumstance of interest to cultivators in the Channel Islands, where potatoes grown under glass are followed in May by tomato seedlings. Trials conducted at the Maryland agricultural experiment station have shown the Bordeaux mixture to be an effectual means of checking the tomato leaf blight. In 1896 spraying with the solution four times resulted, over 35 varieties, in an average increase of 2·5 tons per acre of marketable fruit. In 1897 spraying three times resulted, over 19 varieties, in an average increase of 2·2 tons per acre of marketable tomatoes. The increase in crop as an effect of spraying ranged from ¼ ton to six tons per acre in 1896, and from ¼ ton to 4¼ tons in 1897. Some varieties appear to be more susceptible to blight than others. In 1896, however, all save one variety, and in 1897 all except three varieties, gave an increased crop of ripe fruit as a result of spraying. The *bouillie* employed was made in the proportions of 8 lb. of sulphate of copper and 4 lb. of quicklime to 40 or 50 gallons of water; the mixing is best done in wooden vessels. The addition of 4 oz. of Paris green confers upon the spraying material insecticidal properties also, but in this case the mixture should be kept constantly stirred whilst in use. The varieties of tomatoes that afforded the largest early yields in the Maryland experiments were Early Ruby, Potato Leaf, Prizetaker, Autocrat, and Canada Victor. The best main crop varieties for market were Paragon, Prizetaker, Perfection, World's Fair, and Climax. For the canning trade the Royal Red, Queen, Stone, Paragon, and Matchless proved the most suitable, while for late market or family use nothing excelled the Buckeye State.

FRENCH FERTILISER FREIGHTS.

In France favourable farming conditions continue, a normal temper ture being associated with occasional light falls of rain. Vegetati is making satisfactory progress, and the outlook for the winter-so corn crops is excellent. An order for the destruction of cockchafe and their grubs has been issued in the department of the Marne, t recompense offered being at the rate of 8f. per hectolitre for the grub and 13c. per kilogramme for the winged insects.

Reductions ranging from 22 to 30 per cent. on current rates a announced by the Orleans Railway Company in the carriage of sup phosphate, bones, kainit, oilcake, and other fertilisers and feedi stuffs

The Budget of the French Minister of Agriculture for 1898 provid for a total expenditure of 43,839,103f. Amongst the items a 4,500,000f. as premiums for the encouragement of silk productio 2,500,000f. as premiums for promoting the cultivation of flax a hemp, 1,858,000f. as subventions to various agricultural institutio 1,264,490f. to instructors in agricultural schools and colleges, 657,87 for the equipment of such places of instruction, 482,950f. for instructo and 494,390f. for equipment of veterinary schools. Smaller sums a assigned to the inspection of butters and manures and to other objec

MINES AND MINING IN TURKEY.

THE large smelting operations, which used to be carried on at Tok with copper brought from the Arghana mines between Diarbe and Kharput, have now practically ceased, probably owing to t dearness of the wood fuel used. Copper is now imported for maki the cooking utensils generally in use. The only mines now in f work are the English silver lead mines of Lijessi, near Karahissar, a Gamli Bel, near Enderes; both of which are being worked by the A Minor Mining Company. The mineral resources of the province ha never been properly exploited. Copper *pyrites* with iron and *mangan* are said to be found in the vicinity of Tokat. There are *alum* mi just north of Karahissar; near Sivas and Tokat are deposits of *ka* and good pottery clay: and *arsenic*, north of Sivas in the Hafik Ca Coal deposits are of some importance, as the stock of wood fuel in t country is yearly diminishing. Coal is found close to Sivas, and bu well in stoves; deposits are also said to exist in the Cazas to the nor west of the town, and in the vicinity of Tokat.

The cost of transport from Sivas to Samsoun is 1 kantar of 180 ok (4½ cwts) for 10 to 12 mejidiehs (£2). The prices of corn this win at Sivas have been as low as 160 okes for 50 pias., or about 4 cwts. 8s. 6d. The metalled roads to the other Black Sea ports of Kerassu and Ordou cross a difficult mountain chain on the frontier of the vilay are not easy to keep in repair, and are not much used by carts. route newly laid out, and a good deal used last summer, was fr Tokat through Niksar to the port of Unie; the cost of transport fr Sivas to the coast was estimated at 20 per cent. cheaper than by t Samsoun road. A railway, either to Samsoun or some other Black S port, is much needed to give the necessary outlet to the sea throu the difficult coast ranges. A prolongation of the existing Angora li which is sometimes mentioned, would represent a very long railw journey for Sivas products before they reached a port.

THE INSTITUTE OF CHEMISTRY RECEPTION.—The Institute Chemistry, the Society of Chemical Industry, and the Society of Pub Analysts, entertained the members (and some friends of these Societi at a reception by the presidents, at the Galleries of the Royal Instit of Painters in Water Colours, on Tuesday evening. The guests, w numbered about 800, were received by Dr. and Mrs. Stevens Professor and Mrs Frank Clowes, and Dr. and Mrs. Bernard Dyer, a included Sir William MacCormack, Bart. (President Royal College Surgeons); Sir Hugh Owen, K.C.B. (Sec. Local Government Boar Sir Ed. Frankland, K.C.B., F.R.S.; Sir Henry E. Roscoe, F.R.S Sir John Turney; Sir Robert Pullar; Sir Alexander Binnie; Sir Thom Wardle; Mr. W. H. Preece, C.B., F.R.S. (Pres. Inst. Civil Enginee Mr. Walter Hills (Pres. Phar. Society); Mr. Windsor Richards (Pr Inst. Mechanical Engineers); Mr. Cozens Hardy, Q.C., M.P.; M Phipson Beale, Q.C.; Mr. Rotton, Q.C.; Dr. J. H. Gladstone, F.R.S Dr. W. J. Russell, F.R.S.; Professor W. A. Tilden, F.R.S.; Dr. E. Thorpe, F.R.S. (Principal Government Laboratories); Professor Millar Thomson, F.R.S.; Professor Ayrton, F.R.S.; Dr. W. H. Perk F.R.S.; Professor Armstrong, F.R.S.; Professor Grylls Adams, F.R.S Dr. Hugo Muller, F.R.S.; Professor R. Meldola, F.R.S.; Mr. Dav Howard; Dr. Horace T. Brown, F.R.S.; Mr. C. E. Groves, F.R.S Professor W. R. Dunstan, F.R.S.; Professor J. Ferguson; Mr. As Webb; Mr. M. Carteighe; Mr. Otto Hehner; Mr. R. J. Friswe Professor H. McLeod, F.R.S.; Mr. C. J. Stewart (Clerk L.C.C Mr. Shirley Murphy (Medical Officer L.C.C.); Dr. Alan Manby; D R. Messel; Mr. Thomas Tyrer. An excellent programme of mu was provided by the Westminster Singers, and Miss Edith Byfo (violin), and Miss Elsie Horne (piano). The pictures were also a gr source of interest to the guests.

Reports of Companies.

CASTNER-KELLNER ALKALI CO., LTD.

THE second ordinary general meeting of the shareholders of this company was held on Friday 27th ult, at Cannon-street Hotel, E.C., Mr. William Mather (chairman of the company) presiding.

The Chairman said: I will proceed at once to make a few observations upon the report, with which, no doubt, you are all familiar. This is the third meeting of the shareholders since the formation of the company. At the first meeting—the statutory meeting—I ventured at some length to state the opinions of the directors as to the nature and the prospects of the enterprise, and offered generally a forecast of the proceedings which would have to be undertaken before the works were established and erected for the purpose of carrying out the patents which the company had purchased. At the second meeting—the first annual meeting of the company—I reported the progress made in the development of our enterprise, so far as the erection of the works at Runcorn was concerned, and forecast the possible time at which this enterprise would be launched as a manufacturing concern. On this occasion—a year afterwards—I am happy to meet you and be able to point to the statements in the report now before you, showing that the enterprise, so far as one-half of its development is concerned—namely, that two installations out of four have been put to work successfully—has, in our opinion, justified the expectations we had formed. The first paragraph of the report deals with the trading account. You will observe that we have been able to carry to profit a sum of upwards of £9,000, which has been earned, practically, from only one-fourth of our proposed installation—1,000 horse-power. The earnings were limited to little over half of the year after we had begun. The profits derived from that account have been so satisfactory that your directors have gone forward with very good hearts in completing the rest of this enterprise, first by getting the second installation into full working order, and laying down the foundation for proceeding with the utmost energy with the other two installations of 1,000 horse-power each, which will then complete the full enterprise which we started upon two years ago. The profitableness of this process has borne out our expectations. The second installation is now running fully equipped with all the means to develop as much product as the first installation. In connection with the output of these installations I should like to remind the shareholders that we have entered into a very satisfactory arrangement as to the disposal of our product. The greater part of it is practically sold before we make it, so that every ton we can produce week by week is absorbed by the contract which was made a year ago, and which has, I am glad to say, two years to run from July 15th last—a contract which fixed the definite price at which we can sell the major portion of our product. (Applause). The price at which our joint product is sold, even with the favourable disposal of the greater portion, is, as you are aware, not equal to the price that was obtained on the market at the time this company was formed, but it must be a matter of very great satisfaction to the shareholders, as it is to the directors, that with the fall of price in chemicals, especially the two articles with which we have to deal, we foresee under present circumstances, and possibly under circumstances less favourable than we are working under to-day, viz., under fixed contract—we foresee a satisfactory future for this business even at prices lower than those at which we are disposing of our product at the present time.

The erection of the third and fourth installations of 1,000 horse-power each will, as I said before, complete this enterprise. These two installations are very far advanced, so far as the buildings are concerned and part of the equipment, and in the course of the year—by the end of the year at any rate—we expect to have the full plant, the full 4,000 horse-power, steadily at work developing the products which we have to put upon the market. It will thus be seen that within what is really a very short period from the time we received any money to spend on these great works we have diligently pursued the object we had in view on behalf of our shareholders. You will observe we intend to take powers to issue first mortgage debenture stock for £100,000, and to issue £80,000. thereof at 5 per cent., repayable in three years. Any portion of this issue can be taken up by the shareholders if they apply before June 8th. And in reference to this point I should say that, looking at the eminently satisfactory nature of the securities for the stock, at the solid, substantial, and durable character of the works, the extensive appliances there for economical manufacture, and looking at the prospects of the company for the production and disposal of its products, I think the stock is likely to prove to shareholders who have money to invest, a tempting offer. If, however, shareholders do not like to take up the stock it will be issued elsewhere; but I may say not a farthing of commission will be paid for the raising of this money if the shareholders themselves do not desire to take it up. Mention is made in the report as regards lawsuits. These have been undertaken to protect our patents from infringement. It would, however, not be prudent for me to enter largely into that question; suffice it to say that our position seems to be, in the opinion of the best experts of the law, and those whom we have consulted in the scientific world, impregnable. The directors feel that with the present rate of manufacture, and under the contracts we have for selling our product, and the difference between our cost and selling price, we are justified in holding out the probability of our paying at the end of September next, or in the month of October, profits realised at the rate of 8 per cent. per annum for the half-year which will then have elapsed. The chairman concluded by moving the adoption of the report and accounts.

Sir Henry E. Rosco seconded the motion.

Mr. Drysdale asked if there was more than one action which they had at law.

The Chairman said they had two patents, and an action had been taken in relation to both patents. These patents somewhat crossed each other, and they had found it necessary to defend both; so that they might settle the matter once for all. They had, however, only one opponent.

In answer to Mr. Lyall, the Chairman said the date of the action was not as yet fixed; but it was expected it would be down for hearing in July. They were entirely unaware of any works being owned by their opponents or even projected. They knew nothing of any steps being taken for the establishment of any such large industrial undertaking.

The resolution was then agreed to.

The retiring directors (Mr. Frank Hardcastle and Sir Henry E Roscoe) were re-elected, and the auditors (Messrs. Kemp, Ford and Co.) were reappointed. On the motion of Mr. J. S. Parker, seconded by Mr. Lyall, the sum of £1,000. was voted to the directors as their remuneration for the past fifteen months, and it was agreed that in future the remuneration should be £1,000. per annum.

The proceedings then terminated.

PRIMITIVA NITRATE COMPANY.

The Primitiva Nitrate Company's annual meeting was held in Liverpool last week. The Chairman (Mr. Hebblethwaithe), in moving the adoption of the report, said that the nitrate industry had never passed through such disastrous times, and despite every care and economy, and the setting aside last year of £3,540. to meet contingencies, the accounts showed a loss of £8,214. or a net debit balance of £4,674., since the re-construction of the company. This loss was in the main attributed to unprecedently low prices of nitrate. They were holding on to their present stocks of nitrate and iodine in the hope of doing better later on. Meanwhile, to reduce expenses they would close down the oficina. It had been suggested to adopt means to prevent nitrate producers selling one against another. Shareholders might rest assured that the board would not enter into any combination unless it was on a sound and solid basis. The report having been adopted, Mr. Richard R. Lockett was re-elected director. In acknowledging a vote of thanks, the Chairman expressed a hope that next year they would not only be able to pay a dividend but have something to put by.

THE ITALIAN OCHRE INDUSTRY.

IN the storing and manipulation of Sienna earths, Leghorn still enjoys the possession of an industry which may in a sense be described as peculiarly her own. The greater part of the trade is in the hands of Messrs. Enrico Ganni and Co. The principle articles stored and manipulated are Sienna earths, ochres, and Turkey umbers. The earths and ochres all come from a district lying close to Monte Amiata, in the province or Grosseto; but little of the product is found over the close lying border of the Sienna, and none at all near the city of Sienna, which has given its name to the famous earths. The yellow ochre is a sprface earth, the Sienna earths lying beneath it in three strata as follows:—Upper stratum or "Bolo di Terza"—*i.e.*, third quality; middle stratum or "Bolo di Seconda"—*i.e.*, second quality; lower stratum or Bolo di Prima"—*i.e.*, first quality. There is yet another quality superior to first quality, being a careful selection made by hand of the finer and brighter pieces, chosen more particularly from the Bolo di Prima. Locally, this selected earth is called "spurgo di bolo," or "giallone;" in the German trade it is known as "Electa." At the place of excavation, the raw material which contains perhaps 70 to 80 per cent. of water, is banked in heaps and left to dry in the snn. The ochres are washed in tanks by levigation. Excavation is carried on only in the summer months, when the earths and ochres can be dried by natural heat, and a rainy summer gravely interferes with operations. Burning is also extensively carried on at the place of excavation at all times of the year, charcoal being the fuel employed. The cost is very trifling, but the earths and ochres are also burnt in the Leghorn works. Here, however, the principal operation is to reduce the material, whether

raw or burnt, to a fine impalpable powder by grinding. It may be said that the pigments leave Leghorn in four different forms, namely, raw for burning and for grinding at place of destination, burnt for grinding at place of destination, raw already ground, and burnt already ground.

The processes in Messrs. Ganni's works are extremely simple. Such of the raw material as is to be ground unburnt is first dried in kilns by a gentle heat. Sun-dried earths and ochres still contain 20 to 25 per cent. of water, and even kiln-dried some five per cent. of water remains, the percentage always being specified in the invoices of shipment. The material to be calcined is burnt in brick kilns on brick surfaces by the application of extreme heat. The raw or burnt material ready for grinding is then crumbled in the rough grinder, and when thus reduced to quite small proportions is placed in the final grinders and ground by huge granite stones which are driven by a powerful Ruston Proctor engine. Women are employed in the works, but only for the selection of the "Spurgo di Bolo," or superior quality.

UMBERS.

The Turkey umbers come from Cyprus in large sailing ships at low rates of freight, and are warehoused at a very cheap rate in the vaulted warehouses, which date from the days when Leghorn was the emporium of the Mediterranean. Turkey umbers are of three principle kinds: light colour or limasol; dark colour or larnaca; very dark, commonly called black. It is always the raw or unburnt material which is imported. The umber is subjected to very careful overhauling before being burnt or ground, and all extraneous matter is removed. There is an import duty of 4 lire the quintal on this class of goods, but by special regulation the umbers may be taken out of bond for manipulation, and if exported, the duty is waived. The process of burning is somewhat different to that generally adopted for earths and ochres. The umber is kneaded into rounded masses about the size of a melon, and placed in a different kiln upon iron grids. This method is said to improve the colour. Sometimes, however, the umber is merely kiln-burnt like the earths and ochres. 721 tons of Turkey umber were imported in 1897, and 555 tons exported, nearly all after manipulation.

Sardinian ochres, both striped and plain yellow, are also imported and manipulated, but the quality is far inferior to the Tuscan. A certain amount of Sardinian manganese is also reduced to pigments in these works.

It is difficult to convey an idea of the price of these different articles, owing to the great variety of quality and shades of quality. During the past year raw siennas ranging over the three boli have fetched from £4. to £12. per ton; raw ochres (unwashed), £3. 10s. to £5. 10s., washed, from £8 to £10.; raw umbers, £2. per ton. Burnt siennas of the three principal qualities (known in Italy as "Chicco," "Gripolo," and "Polvere,") £4. to £20. per ton; "Spurgo di Bolo," or superior quality, a small and special business, £60. per ton; ground siennas (both raw and burnt), including all qualities, £6. to £30. per ton; and ground "Spurgo di Bolo," £70. per ton. Burnt ochres, £4. to £10., and ground ochres (raw and burnt), £10. and more per ton. Burnt umbers, £3., and ground umbers, £5. 10s. per ton. The reason why there is little difference between the raw ground material, though the latter has had to bear the cost of burning, is that the dearer qualities of raw ochres and siennas are usually reserved for grinding. Some typical samples of earths, ochres, and umbers have been sent to the Association of Chambers of Commerce for the inspection of the English colour trade.

Italian Siennas easily take the lead of all others for body, colour, strength, and durability. The absolute purity and genuiness of their character, still legible in the pictures of Italy's old masters, may be safely guaranteed in all acquisitions made in Leghorn. Local traders have to compete in some markets with a German article which appears to be a compound of German earth with the genuine sienna impalpable pigment, but nothing can well hope to dislodge Italian siennas from the famous English colour works, whose legitimate pride is the genuineness and excellence of their products.

NOTES ON FOREIGN TRADE.

PATRAS.

About 4,000 tons of *sulphate of copper*, principally of British manufacture, were imported during the past year. It is extensively used in France and Italy as a remedy against the malady of the vines, named "perondsporos," and since grape and currant vineyards in this district suffered so severely last year, all growers are preparing to adopt the same precautions against the malady. Sulphate of copper is being sold retail at £20. a ton.

The Greek Government intends to take off the import duty on copper in order to encourage the manufacture of sulphate of copper in this country.

BAYONNE.

The factories in the neighbouring districts have this year exported to England and Belgium a lesser quantity of *turpentine*, *resin*, pitch and tar than they did in previous years; the decrease being mainly due to the fact that large quantities have been exported from America.

The *salt* mines, which are situated at Dax, Urt, Briscous, Mous rolles-Bayonne, Urenit, Villefranque, Salies de Salat, Salies de Bé and Bassussary yield about 20,000 tons yearly, which is nearly all home consumption; a very small quantity is exported to Spain a Newfoundland.

SAMOA.

English or colonial brands of *white lead* and *paint* hold their o here, and are much superior to the American and German brands.

British traders can purchase German *linseed oil* in Samoa che than the British article can be purchased in Australia.

American yellow *soap* has a large sale. It is put up in cases of bars, containing a nominal hundredweight, and costs 16s. a case lan in Samoa, while it is retailed at 1s a bar. It is harder than the soap manufactured in Australia.

Australian and New Zealand brands of yellow soap hold their ow the market. The commoner sorts cost about 14s. a case of 44 sma bars, landed in Samoa. The bar, which is only two-thirds the siz the American, is retailed at 6d. The Crown Brand, a favourite soap of high character manufactured in Sydney, costs about 19s case landed in Samoa.

BORDEAUX.

The total quantity of *sulphate of copper* imported during 1897 about 13,700 tons, and was almost entirely of British manufact The season, however, was not quite so good as the previous one, though prices opened pretty firmly they were not maintained later With the month of May a downward tendency set in which lasted the end of the year. This fall in prices, just at the principal mon of consumption, was brought on by over-speculation, and by comp tively limited sales compared with 1896. The weather was not fav able, and cryptogamic diseases of the vines did much damage; m vineyards treated after the appearance of the disease could n t be sav sulphate of copper being a preventative and not a cure. The consu tion in 1897 was thus nearly 2,400 tons less than in 1896; the t was able nevertheless to realise fair profits. It appears that sulpha copper has but a very limited effect against the "black rot," and department of the Gers had a very bad vintage on account of ravages perpetrated by this fearful disease, against which no remedy yet been found effective. Many trials, even with mercurial prep tions, have been made, and will be continued during 1898, so it m be expected that growers will soon be able to master this dise Many vine growers, however, are disheartened, even ruined, and general aspect is far from being satisfactory.

The demand for *artificial manures* is steadily increasing, and doubt prices leave a fair margin of profit to the importers.

ANCONA.

A few years back a German syndicate commenced to search for *sulph* near Sassoferrato, within this province, and after encountering g difficulties their efforts have now completely succeeded. The min situated at Cabernardi, and is known under the name of the "Azie Solfifera Italia."

The machinery employed consists of a steam boiler of 80-horse-pow a motor for the extraction of the mineral, and 35 furnaces. During year the mine produced 40,000 tons of sulphur, which was entirely posed of in Italy.

The number of hands employed in the interior of the mine amou to 150 adults, and 100 at the exterior, and the work lasts for about days in the year.

Trade Notes.

THE NEW GERMAN CANAL AND ENGLISH COAL.—Much inte is attached in Germany to the opening of the canal from Dortmun the North Sea, which will take place before the end of this y Starting at Dortmund, the busiest mining district in Westphalia, new waterway goes north, and ends at Emden, after having pa Munster, Nieppen, and Leer. The total length is 270 kilomètres, depth 2·50 mètres, the width at the surface 30 mètres and a bottom 18 mètres, and there are 20 locks. The cost of the canal amount to £3,465,000. It is expected that the new canal will en the mining products of Westphalia—coal and iron—to be carried low rate to the ports of the North Sea. A serious competition will be created with English coal.

GERMAN CHEMICAL INDUSTRY.—The report of the Chem Fabrik in Billwarder, vorm. Hell & Sthamer A. G. Hamburg for shows a considerable improvement upon that for 1896, when dividend was paid. The gross earnings were 424,962m. and the 108,479m., out of which a dividend of 4 per cent. is to be paid 6,308m carried to the reserve fund. The company deals chief borax and boric acid.

paint grinders, etc., who, as a rule, are now working to their utmost capacity. The imports to date have been, as against the same time a year ago—Wheat, 980,734 qrs., against 984,261 qrs. (there does not appear to be much here to justify the late sudden advances in flour, etc.); linseed, 135,388 qrs., against 256,763 qrs.; rapeseed, 32,180 qrs., against 43.785 qrs.; cottonseed, 102,511 tons, against 99,961 tons; cloverseed, 44,388 cwts., against 25,699 cwts.; oilcake, 8,064 tons, against 5,087 tons; olive oil, 2,940 tuns, against 2,461 tuns. The imports of manufactured articles such as oilcake and seed oils, appear to show a large increase against a heavy fall of oil-producing seeds, which should produce food for some reflection on the part of crushers here, against which the facilities for crushing are being largely increased. Linseed oil is firm, spot 16s., naked; forward, June/Aug., 16s. 1½d., buyers; last four months, 16s. Boiled and refined £1. to £2. per ton extra. Refined cotton oil, spot naked, 14s. 9d. to 15s.; forward, May/August, 14s. 10½d., Nov./April, 12s. 10½d. Casks, £1. and ordinary barrels £1. 10s. per ton extra. Castor oil, 3⅜d. to 3½d. per lb. for first pressure; second pressure, 3⅜ to 3¼d. per lb. Olive oil soap in good inquiry, prices ruling £16. 10s. upwards. Cod oils from £16. to £18 per ton. Olive oils from £31. to £34. per ton. Resins quoted on the spot from 5s. 1½d. per cwt.

CAKES.—Very limited demand, and markets consequently are dull. Linseed cakes quiet, 95% pure, £7. 17s 6d. to £8. Russians, £7. 7s. 6d. to £7. 10s. Oilcakes (linseed), £6. 15s. to £6. 17s. 6d. Cotton cakes dull, best makes, £4. 7s. 6d.; seconds, £4. 5s. Decorticated cakes, £6. 5s. to £6. 7s. 6d. Meal, £6. 5s. Rape cakes unchanged.

PAINTS.—Good demand, prices unchanged. Disinfecting powder, 5% carbolic, £3.; 10%, £3. 10s.; 15%, £4. per ton. Sanitary fluid, 10d. gallon. Black varnish, £5 per ton in barrels. Mineral colours, dry, from £3. to £8. per ton.

TYNE CHEMICAL REPORT.

SATURDAY.

Chemicals are unaltered in price and with only a moderate business in progress. Soda crystals are in fair demand, and price locally £2. 12s. 6d. per ton, gross weight. Caustic, 76/77% £8. 10s. and 70% £7. 5s. per ton. Sulphur firm at £4. 15s. to £5. per ton.

Bleaching powder, softs, £5. 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 15s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 5% f.o.b. (Liverpool); pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—The market continues firm for prompt delivery though with the probable early settlement of the South Wales strike, the position forward is distinctly easier. Bunker coals are scarce and in demand. Coke is still in excellent consumption and price firmer. Best Northumbrian steam, 13s. 6d. to 14s. per ton; second qualities, 12s. 6d. to 13s. per ton; small steam, 4s. 9d. to 5s. per ton; bunker coals, 8s. 6d. to 9s. per ton; coke, 18s. 6d. to 21s. per ton.

New Companies.

Anglo-Norwegian Kieselguhr Co., Ltd.—CAPITAL £100 in £1. shares. This company has been formed to acquire, dev and turn to account any rights, lakes and land containing kiese and other earths and minerals in Norway, and to adopt an agre with W. Cooper. The subscribers to the memorandum of assoc are: W. Cooper, Coton Villa, Stafford, merchant; F. H. Pepp Waterloo-street, Birmingham, solicitor; W. H. Bagley, V Works, Aston, Birmingham, manufacturer; G. H. Chamberl Willow Avenue, Birmingham, solicitor; E. H. Duck, 30, Hig road, Saltley, Birmingham, cashier; G. M. Gamble, 6, Mo street, Birmingham, clerk; G. Downs, 34, Waterloo-street, Bi ham, clerk. Registered office, 90, New-street, Birmingham.

Bigland Paint and Oil Co., Ltd.—CAPITAL £2,000. shares. This company has been formed to manufacture, sell, an in paint, oil, varnish, anti-fouling compositions, etc. The num directors is not to be less than 3 nor more than 5; the subscrib to appoint the first. Qualification, 25 shares.

High Explosives Co, Ltd.—CAPITAL £30,000. in 5 shares of £1. and 500,000 B. shares of 1s. each. This compa been formed to adopt an agreement with the Secretarial Co. and to manufacture, sell, and deal in dynamite, gelatines, smokele other powders, explosives and ammunition of all kinds. The subs are:—J. S. Bridges, Woodcote, Fleet, Hants, retired F. D Green, 13, Fenchurch-street, E.C., shipbroker; S. Caldw Birchin Lane, E.C., gent; D. Paisley, 44, Davenant-roa engineer; J. M. Gray, 57½, Old Broad-street, E.C., sec W. H. Fox, 57, Lancaster Gate, Hyde Park, F.C.A.; C. La 2, Northampton Park, Canonbury, clerk.

Leyland and Birmingham Rubber Co, Ltd.—C £300,000. in £1. shares. This company has been formed to agreements (1) with the Leyland Rubber Co., Ltd.; (2) with S Morrison & Co., Ltd., and (3) with the Birmingham India-Rubb and to carry on the business of manufacturers of and dealers in rubber, gutta percha, flax, hose, flax and cotton belting, etc., cians, telegraph and electrical engineers and contractors, cab telegraph instrument manufacturers, pnuematic and other tyre facturers, cycle manufacturers and dealers, motor-car la engineers, machinists, etc. The subscribers to the memoran association are:—J. E. Baxter, Highfield, Leyland, Lancashire, facturer; J. W. Brown, Beech Mount, Bolton, cotton waste S. Whitehead, Sunnyside, Leyland, manager; J. W. Kenyo Hollies, Bury, gent; J. A. Fallows, 14, New Brown-street, chester, salesman; E. T. Everett, 3, Stevenson Square, Man merchant; R. T. Byrne, 124, New-street, Birmingham, manuf Registered office, Golden Hill Works, Leyland, Lancs.

British Dyewood and Chemical Co., Ltd.—CAPITAL £5 in £10. shares. This company has been formed to acquire the will and assets of the following businesses:—E. D. Milnes Lumn Mills, Bury, drysalter and chemical manufacturers; M & Co., Elton Fold Works and Hind's Mill, Bury, and Albyn Glasgow; John Dawson & Co., Eglinton Dyewood Mills, Allo W. R. Scott & Co., Carntyne Dyewood Mills, Parkhead, G and to carry on the same. The subscribers to the memora association are:—E. Milnes, Lumn Mills, Bury, Lancashire, facturer; W. Mucklow, Elton Fold Works, Bury, manuf J. Dawson, 27, St. Vincent Place, Glasgow, manufacturer; Dawson, 27, St. Vincent Place, Glasgow, manufacturer; G. 27, St. Vincent Place, Glasgow, manufacturer; W. Scott, Vincent-street, Glasgow, manufacturer; R. Scott, 154, St. street, Glasgow, manufacturer. Registered office, 154, St. street, Glasgow.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 21st.

Acetic Acid—
Belgium, 30 pks. T. H. Lee
Holland, 120 Phillipps & Graves

Acetone—
Germany, 10 pks. Petri Brs.

Acids—
Holland, 140 pks. Little & Johnston

Alkali—
Holland, 28 c. Little & Johnston

Ammonia—
Holland, £100 H. Lorenz

Arsenic—
Melbourne, 75 pks. G. H. Adams & Co.

Asbestos—
Germany, £27 Craven & Co
Italy, 35 Cape Asbestos Co., Ld.

Barium Chloride—
Germany, £90 Petri Brs.

Barium Salts—
Germany, £120 Butler's Wf., Ld.

Barytes—
Belgium, 76 pks. J. L. Lyon & Co.
Germany, 50 "
" 40 E. J. Diggins
" 8 R. W. Greeff & Co.
Holland, 47 W. Harrison & Co.

Bleaching Powder—
Germany, £180 J. M. Steel & Co.

Bone Meal—
E. Indies, 300 t. H. Lambert
" 200 Union L. Co., Ld.
" 100 Fox, Roy & Co.

Caoutchouc—
Straits, 190 c. W. Pope & Co.
" 6 Lewis & Peat
Africa, 10 Prop
Zanzibar, 11 F. H
U. S., 25 E. Cortes &
Cape, 10 Brooke
Straits, 600 Gilman
" 131 L. & I.
France, 21 H. John

Castor Oil—
E. Indies, 50 cs. Perkin
France, 31 brls.
E. Indies, 180 cks. Cayzer, I
France, 24 C
" 40 pks.
Belgium, 90 brls. Lucas &

tic Potash—
nce, 200 c. F. W. Berk & Co., Ltd.
,, 122 pks. W. E. Cole
land, 43 J. M. Steel & Co.
gium, 4 Fuerst Brs.

nicals (*otherwise undescribed*)
many, £373 L. & I. D. Jt. Co.
,, 435 A. & M. Zimmermann
land, 25 T. H. Lee
,, 26 J. Barber & Co.
many, 22 Butler's Wf., Ld.
nce, 6 J. Harrison
gium, 135 T. H. Lee
,, 45 Leach & Co.
,, 5 John Cockerill Line
,, 64 T. Palmer
nce. 76 Mory & Co
many, 15 R. W. Greeff & Co.
,, 1,129 A. & M. Zimmermann
nce, 40 J Barber & Co.

eras—
many, £45 A. & M. Zimmermann

er Sulphate—
many, 2 pks. Butler's Wf., Ld.

m of Tartar—
nce, 4 pks. Blackmore, Leconte & Co.
,, 5 M. Ashby, Ld.
in, 5 B. & F. Wf. Co.

stuffs—
niline
nce, 4 pks. Gellatly, Hankey & Co.
land, 2 Pronk, Davis & Co.

nthracene
gium, 126 pks. Burt, Boulton & Co.

rgols
ly, 383 pks. B. Jacob & Sons
43 Thames S. T. & L. Co.

ochineal
naries, 31 pks. W. M. Smith & Sons
,, 8 Sperling & Williams
,, 15 Hendry & Martin
rmany. 21 A. Everingham & Co.

Divi Divi
Indies, 292pks. Culverwell, Brooks & Co.
,, 398 Flack, Chandler & Co.
W.I., 1,145 Perkins & Homer

Extracts
nce, 40 pks. T. H. Lee
stria, 80 Boutcher, Mortimore & Co
nce, 6 J. Harrison
States, 6 H Johnson & Sons
,, 10 W. C. Barnes & Co.
land, 20 J. Norrenberg & Co
nce, 64 Bennett S. S. Co.
stria, 70 Bailey & Leetham, Ld.
nce. 145 L. J. Levinstein
States, 125 Skilbeck Brs.

ambier
aits, 499 pks. Prop. Hay's Wf.

ndigo
dras, 9 chts. Croysdale & Co.
Indies, 20 J. Owen
dras, 19 G. S. N. Co.
,, 14 Binny & Co.
gal, 3 J. Finlay & Co.
,, 370 W. J. & H. Thompson

ogwood
W.I., 35 t. T. Hankey & Co.

yrabolams
Indies, 510 pks. D. Sassoon & Co.
,, 1 240 H. K Daniels
,, 297 Baxter & Hoare
,, 669 L. & I. D. Jt Co.
,, 669 Culverwell, Brooks & Co.
,, 1,000 P. & O. Co.
,, 710 Baxter & Hoare

humac
ly, 100 pks. J. Kitchin, Ld.
,, 210 Union L. Co., Ld.
stria, 250 Bailey & Leetham, Ld.

anners' Bark
pe, 12 t. A & W. Nesbitt
,, 57 J. T. Rennie, Son & Co.
mania, 6 L. & I. D. Jt. Co.

urmeric
Indies, 94 pks. G. & H Green
rmany, 47 H A. Litchfield & Co.

stuffs (*otherwise undescribed*)
lland, 4 pks T. H. Lee

na—
rmany, 50 pks. R. Bennett & Co.
gium, 2 T. H. Lee

ose—
States, 50 pks. 310 c. R. G. Hall & Co.
,, 391 1,710 L. & Til. Ltge. Co.
Germany, 13 100 J. Knill & Co.
U. States, 325 1,990 Williams, Torrey & Co.

Glue—
France, £135 C. A. & H. Nichols
Belgium, 1,405 J. Barber & Co.
Austria, 140 J. Greig
U. States, 21 Armour & Co.
France, 489 Duche & Son
,, 12 Bennett S. S. Co.
Germany. 57 Steinhoff, Sons & Co.

Gue Stock—
Germany, 95 brls. Hicks, Nash & Co
Melbourne, 20 Flack, Chandler, & Co.
Sydney, 51 ,,
,, 11 Goad, Rigg & Co.

Guano—
Cape, 600 t. R. Bensuan

Gutta Percha—
Straits, 290 c. Kleinwort Sons & Co.
,, 692 H. W. Jewesbury & Co.
,, 43 Gilman Brs. & Co.
,, 262 L. & I. D. Jt. Co.
,, 320 Soundy & Sons
Colombia, 20 A. Pearson & Co.

Lead Acetate—
Germany, £120 Beresford & Co.

Manganese—
Germany, 8 t. Craven & Co.
,, 8 S. Bailey

Manure—
France, 98 t. Burnett Brs. & Sons
Belgium, 3 Prasckkauer & Co., Ld.

Methyl Alcohol—
Sweden, qty. Lister & Biggs

Mica—
France £92 Blackwell & Co.
Madras, 530 Major & Field
Adelaide, 2,310 W. M. Smith & Sons
Calcutta, 115 L. & I. D. Jt. Co.
U. States, 180 W. Dixon

Molasses—
Azores, 100 pns. 1,300 c. Prprs. Cooperage Wf
U. States, 12 brls. 75 c. Wilson & Furness Leyland Line

Ochre—
France, 374 pks. W. Harrison & Co.
Holland, 21 Phillipps & Graves

Oxalic Acid—
Holland, 25 pks. R. W. Greeff & Co.

Paraffin Wax—
U. States, 611 brls. Palmer & Co.
,, 16 cs. Lunham & Moore
,, 100 H. Hill & Sons
,, 100 2,485 brls. Anglo-American Oil Co.

Phosphate Rock—
Algeria, 400 t. Odams Manure & Chemical Co.
Holland, 200 Lawes Chemical Manure Co.
France, 185 A. Hunter & Co.
Holland, 230 D. de Pass & Co.

Phosphate of Lime—
France, 250 t. A. Hunter & Co.
Belgium, 140 Odams Manure & Chemical Co.
Algeria, 1,150 ,,
France, 50 W. H. Carey & Sons

Pitch—
Germany, 500 cks. Fellows, Morton, & Co.
W. Indies, 99 brls Gillespie Brs. & Co

Potash—
Holland, £65 R. W. Greeff & Co

Potassium Carbonate—
France, 62 c. J. A. Reid
Germany, 200 Charles & Fox
,, 105 Petri Brs.
France, 80 ,,

Potassium Permanganate—
Germany, £31 Butler's Wf., Ld.

Potassium Sulphate—
Germany, 508 bgs. Anglo-Contl. Guano Works
Belgium, 50 pks. Charles & Fox

Pyrites—
Spain, 4,870 t. C. Tennant, Sons, & Co.

Rosin—
Belgium, 128 brls. J. Watt & Son
U. States, 1,500 Prod. Brokers' Co.
,, 3,231 T. Nickels & Co

Saltpetre—
Bengal, 1,636 bgs. L. & I. D. Jt. Co.
Germany, 1 ck. ,,
Calcutta, 615 bgs. Lucas & Spencer's Wf.

Salicylic Acid—
Germany, 5 pks. Butler's Wf., Ld.

Soda—
Holland, £35 R. W. Greeff & Co.

Sodium Bicromate—
Germany, 51 pks. A. J. Neale

Sodium Carbonate—
Germany, 80 c. J. Barber & Co.

Sodium Nitrate—
Chili, 8,854 bgs. W. Montgomery & Co.

Starch—
France, 208 pks. Prprs. Dowgate Dk.
Holland, 1,088 Little & Johnston
Belgium, 340 E. & T Pink
,, 140 Taylor Brs.
,, 20 Leach & Co.
,, 240 T. H. Lee
Holland, 55 Phillipps & Graves
France, 40 J. Barber & Co.
U. States, 1,250 Bertel Food Co.
,, 100 R. Warner & Co.

Stearine—
Belgium. 63 bgs. J. Harrison
France, 145 cs. Palmer & Co.
Belgium, 2 cks. H. Hill & Sons

Sulphur—
Italy, 150 t. W. C. Bacon & Co.
,, 35 F. C. Devon & Co.
,, 30 J. Greig
,, 200 Ekman Pulp & Paper Co.
,, 20 G. Boor, Sons, & Co.
,, 25 C. Tennant, Sons, & Co.
,, 15 Hyslop & Simonds
,, 18 Bailey & Leetham, Ld.

Tar—
U. States, 1,350 brls. Union Whvs. Co.
,, 200 Prod. Brokers' Co.

Tartaric Acid—
Holland, 18 pks. Kirkpatrick, Barr, & Co.

Tin Oxide—
Germany, £22 Rudolf, Wolff, & Co.

Ultramarine—
Germany, 10 pks. H. Brooks & Co.
Holland, 5 J. Barber & Co.
,, 2 W. Harrison & Co.

Varnish—
U. States, 3 pks. Lon. & Til. Ltge. C. & D. Co.
France, 4 Mess Parisiennes
U. States, 15 Williams, Torrey, & Co.
,, 186 J. R. Francis & Co.
Germany, 4 H. Lambert

White Lead—
Belgium, 46 pks. T. & W. Farmiloe, Ld.
,, 30 Burrell & Co.
,, 121 J. L Lyon & Co
Germany, 5 J. Barber & Co.
,, 20 W. A. Rose & Co.

Wood Pulp—
Germany, 510 pks. E. J. & W. Goldsmith
Sweden, 650 pks. W. G. Taylor & Co.
,, 250 H. Raby & Mather
Norway, 200 Johnsen & Jorgensen
,, 183 W. G. Taylor & Co., Ld.
Sweden, 680 J. W. Cook & Co.
Belgium, 406 W. Friedlaender
Norway, 996 Christophersen, Andrews, & Co.

Zinc Oxide—
Holland, 50 pks. J. Matton
,, 30 M. Ashby, Ld.
Germany, 50 ,,
U. States, 300 ,,

LIVERPOOL.

Week ending May 19th.

Acetate of Lime—
New York, 3,418 bgs.

Acetic Acid—
Bremen, 17 blns.

Aniline Salts—
Antwerp, 20 cks.
Rotterdam, 4

Asbestos—
Genoa, 19 bls.
Hamburg, 6 crts.

Barytes—
Antwerp, 70 cks. 180 bgs.
Rotterdam 22 cks.

Boracic Acid—
Leghorn, 10 cks.

Borax—
Leghorn, 57 cks

Castor Oil—
Marseilles, 11 brls. J. J. Mack & Son
,, 50 cs. 466
Genoa, 60 C. Schneiders & Co.
Leghorn, 20

Chemicals (*otherwise undescribed*)
Hamburg, 4 cs.

Colours—
Stettin, 16 cks. Calvert Bros. & Co.
Rotterdam, 89 4 cs.

Cottonseed Oil—
New York, 100 brls.

Cream of Tartar—
Bordeaux, 57 cks.

Dried Blood—
Palermo, 12 bgs.

Dyestuffs—
Algarrobilla
Valparaiso, 652 sks.
Cochineal
Teneriffe, 70 sks. 10 bgs. G. S. Bruce
Extracts
Philadelphia, 40 pks. 350 bxs. 50 brls.
Mediterranean, 50
New York, 225
Newport News, 150
Logwood
Laguna de Terminos, 181½ tns. Skelton & Schofield
Myrabolams
Bombay, 1,918 bgs. D. Sassoon & Co.
Shumac
Marseilles, 281 bgs. H. Rooke
Palermo, 700
Valonia
Smyrna, 5,489 ktls. G. Essayan & Co.
,, 374 1,761 bgs. 100 t.

Farina—
Stettin, 20 bgs. Makin & Bancroft

Fish Oil—
Hamburg, 50 brls.

Fustic—
Cartagena, 209 pcs.

Glucose—
New York, 650 brls. T. M. Duche & Son
,, 50 Rogers, Holloway & Son
Boston, 50 T. M Duche & Sons
Newport News, 250

Glue—
Naples, 60 bls.
Hamburg, 1 cs.
Antwerp. 20
Rotterdam, 2
Rouen, 8 R. J. Francis

Glycerine—
Marseilles 76 dms. J. Crosfield
Genoa, 5 ,,

Iron Oxide—
Montreal, 41 cks. W. Lester & Sons

Lactic Acid—
Boston 20 brls. J. Taylor & Co.

Litharge—
Rotterdam, 7 ck

Lithopone—
Rotterdam, 4 cks.

Magnesite—
Kymasse, 1,660 t.

Mica—
New York, 100 brls. C. & J. G. Potter

Mineral White—
Genoa, 30 bgs.

Ochre—
New York, 10 brls. C. & J. G. Potter
Norfolk, 1,440
Rouen, 30 cs. R. J. Francis & Co.

Ozokerite—
Hamburg, 1 bg.

Paint—
Boston, 1 kg Musson & Co
,, 3 cs. Pearson, Bennion & Kelly
Hamburg, 10 10 dms.

Paraffin Scale—
Baltimore, 200 brls.

Paraffin Wax—
Baltimore, 100 brls.
Phosphorus—
Montreal, 35 cs.
Pitch—
Marseilles, 58 brls.
Potash—
Hamburg, 10 cks.
Rotterdam, 20 cs.
Pyrites—
Huelva, 2,458 t. Matheson & Co.
" 1,137
Salammoniac Skimmings—
Baltimore, 5 cks. Cartledge &
31 brls. Batchelor
Saltpetre—
Hamburg, 4 cks 20 bgs. 20 brls.
Soap—
New York, 100 brls. Isaac Newton & Co.
Norfolk, 664
Philadelphia, 1
Boston, 5 cs.
" 10 Musson & Co.
Marseilles, 17 125 bxs.
Naples, 60
Soapstone—
Bordeaux, 260 bgs. Geo. G. Black-
6 cs. well, Sons & Co.
Starch—
Hamburg, 76 cs.
New York, 115 bgs.
" 100 L. Sutro & Co.
Bremen, 120
Baltimore, 400
Antwerp, 1,042
N port News, 170 sks.
Stearine—
Antwerp, 13 bgs.
Sulphur—
Catania, 58 bgs.
Sulphuric Acid—
Hamburg, 1 cs.
Superphosphates—
Hamburg, 1 bg.
Tallow—
Philadelphia, 538 tcs.
New York, 100 brls.
Boston, 900 9 hds.
" 432 G W. Rowley
Montreal, 400
Tartaric Acid—
Messina, 8 cks.
Ultramarine—
Antwerp, 2 cks.
Varnish—
New York, 18 brls. W. A. Warren
Waste Soap Liquor—
Kingston, 14 dms. Crosfield & Co.
White Lead—
Rotterdam, 20 cks.
Wood Pulp—
Montreal, 2,800 bls. A. Rice & Co.
Zinc Oxide—
New York, 150 brls.
Antwerp, 70

MANCHESTER.

Week ending May 21st.

Acetate of Lime—
New York, 867 bgs.
Acids—
Antwerp, 2 cks.
Alizarine—
Rotterdam, 36 cks.
Aniline Salts—
Rotterdam, 19 pks.
Asbestos—
Rotterdam, 27 pks.
Barytes—
Antwerp, { 81 bgs. 37 cks.
Hamburg, 14
Rotterdam, 5
Borates (Crude)—
Galveston, 3,210 sks.
Chromium Acetate—
Rotterdam, 18 cks.
Colours—
Ghent, 3 brls.
Antwerp, 12 cks.
Hamburg, 6 6 cs.
Rotterdam, { 160 34 20 bgs. 122 bdls.

Cream of Tartar—
Nantes, 1 ck.
Glucose—
New York, 350 brls.
Glue—
Antwerp, 10 bls.
Hamburg, 20 bgs.
Treport, 17 cks. 56
Limestone—
Antwerp, 1 crte.
Ghent, 1 cs.
Mineral White—
Nantes, 200 bgs.
Oxalic Acid—
Rotterdam, 14 cks.
Pyrites—
Huelva, 1,873 t.
Paraffin Scale—
New York, 441 brls.
Potash—
Treport, 4 cks. 20 dms.
Soap Stock—
Galveston, 60 brls.
Starch—
Hamburg, 140 cs.
New York, 200 bgs. 400 sks.
Stearine—
Ghent, 18 bgs.
Sulphur—
Hamburg, 4 cks.
Tannic Acid—
Hamburg, 5 cks.
Tanning Extract—
Rotterdam, 5 cks.
Treport, 2
Tartaric Acid—
Rotterdam, 25 cks.
Waste Salt—
Hamburg, qty.
Wood Pulp—
Gothenburg, 1,255 bls.
Sarpsborg, 4,066
Zinc Oxide—
Antwerp, 80 brls.
Rotterdam, 60
Zinc Sulphate—
Gothenburg, 20 cs.

HULL.

Week ending May 21st.

Acids—
Leghorn, 4 brls.
Trieste, 106 cks. Wilson, Sons, & Co., Ld.
Albumen—
Riga, 2 cks.
Alumina Sulphate—
Rotterdam, 210 bgs. W. & C. L. Ringrose
Antimony—
Leghorn, 32 pks. Wilson, Sons, & Co., Ld.
Barytes—
Bremen, 35 cks. G. Holmes & Co.
Hamburg, 20 Wilson, Sons, & Co., Ld.
Amsterdam, 44 Hutchinson & Son
Rotterdam, 42 W. & C. L. Ringrose
Antwerp, 102 Bailey & Leetham, Ld.
Bremen, 24 Veltmann & Co.
" 20
Antwerp, 72 brls. Wilson,
200 bgs. Sons, & Co., Ld.
Castor Oil—
Marseilles, 30 brls. Wilson, Sons, & Co., Ld.
Genoa, 6 cs. "
Leghorn, 10 H. F. Love & Co.
Trieste, 1 Wilson, Sons, & Co., Ld.
Antwerp, 1 Wilson, Sons, & Co., Ld.
Chemicals (*otherwise undescribed*)
Bremen, 1 cs. Veltmann & Co.
Dunkirk, 12 ck. Wilson, Sons, & Co., Ld.
Antwerp, 13 brls. Wilson,
93 pks. Sons, & Co., Ld.
Stettin, 26 cks. "
Danzig, 17 "
Colours—
Bremen, 5 cs. J. Pyefinch & Co.

Hamburg, 4 brls. Wilson,
1 ck. Sons, & Co., Ld.
Stettin, 10 "
Antwerp, 4 brls. Blundell, Spence, & Co.
Antwerp, { 1 drm. 9 cks. 16 pks. Wilson, Sons, & Co., Ld.
Amsterdam, 3 cks. W. & C. L. Ringrose
Danzig, 17 Wilson, Sons, & Co., Ld.
Rotterdam, 157 pks. Hutchinson & Son
" 5 cks. W. & C. L.
65 pks. Ringrose
Dyestuffs—
Extracts
Riga, 75 cs. Wilson, Sons, & Co., Ld.
Dunkirk, 5 cks. "
Shumac
Trieste, 20 brls. Wilson Sons, & Co., Ld.
Palermo, 2,735 bgs. "
" 25
Farina—
Hamburg, 200 bgs. Wilson, Sons, & Co., Ld.
Stettin, 550 "
Harlingen, 250 bls. Hutchinson & Son
Fluoride—
Rotterdam, 12 cs. Hutchinson & Son
Glucose—
Hamburg, 80 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 80 bgs. Hutchinson & Son
Stettin, 100 Wilson, Sons, & Co., Ld.
Glue—
Hamburg, 100 kgs. Wilson,
6 jrs. Sons, & Co., Ld.
Rouen, 5 cks. Rawson & Robinson
Trieste, 20
Dunkirk, 31 Wilson, Sons, & Co., Ld.
Ochre—
Leghorn, 80 bgs.
Rotterdam, 1 brl. Hutchinson & Son
Rouen, 20 cks. Rawson & Robinson
Olive Oil—
Leghorn, 168 pks. Wilson, Sons, & Co., Ld.
" 20 brls.
Trieste, 273 Wilson, Sons, & Co., Ld.
" 1 ck.
Paint—
Gothenburg, 2 tins. Wilson, Sons, & Co., Ld.
Amsterdam, 2 dms. W. & C. L. Ringrose
Phosphates—
Bugie 500 t. Wilson, Sons, & Co., Ld.
Pitch—
Amsterdam, 13 cks. Hutchinson & Son
Potash—
Rotterdam, 16 dms. W. & C. L. Ringrose
Pumice Stone—
Leghorn, 7 cks. Wilson, Sons, & Co., Ld.
Trieste, 33 cs. "
Soda—
Ghent, 50 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 110 Bailey & Leetham, Ld.
" 200 Wilson, Sons, & Co., Ld.
Starch—
Ghent, 360 cs. Wilson, Sons, & Co., Ld.
Antwerp, 18 Bailey & Leetham, Ld.
Bremen, 5,423 Veltmann & Co.
Amsterdam, 80 W. & C. L. Ringrose
Tartaric Acid—
Rotterdam, 6 cs. Hutchinson
4 cks. & Son
Ultramarine—
Rotterdam, 6 cks. Hutchinson & Son

Varnish—
Hamburg, 2 dms. Wil[illegible] Sons, & Co., [illegible]
Waste Salt—
Hamburg, 834 bgs.
" 1,039 Baile[illegible] Leetham, [illegible]
White Lead—
Amsterdam, 41 cks. Hutchi[illegible] & [illegible]
Rottardam 56
Ghent, 8 Wil[illegible] Sons, & Co.,
" 28
Antwerp, 26 Baile[illegible] Leetham,
Amsterdam 32
Wood Pulp—
Christiania, 20 cs. Wi[illegible] Sons, & Co.,
Gothenburg 100 bls. "
Rotterdam, 25 pks. Hutchi[illegible] &
Zinc Oxide—
Antwerp, 8 cks. Baile[illegible] Leetham,
Rotterdam, 20 Hutchinson &

GLASGOW.

Week ending May 26th.

Acetate of Soda—
Rouen, 19 cks.
Acetic Acid—
Rotterdam, 10 carboys J. Ran[illegible] &
Alum—
Rotterdam, 16 cks. J. Ran[illegible] &
Aniline Salts—
Rotterdam, 10 cks. J. Ran[illegible] &
Arachide Oil—
Rotterdam, 1 ck. J. Ran[illegible] &
Barytes—
Hamburg, 41 cks.
Barium Sulphate—
Antwerp, 200 bgs.
Bleaching Powder—
Rotterdam, 43 cks. J. Ran[illegible] &
Castor Oil—
Marseilles, 274 brls. 20 cs.
Chemicals (*otherwise unde[illegible]*)
Rotterdam, 1 ck. J. Ran[illegible] &
Chromium Oxide—
Rotterdam 5 cs. J. Ran[illegible] &
Colours—
Rotterdam, 36 pks. J. Ran[illegible]
6 cks. &
Hamburg, 7
Antwerp, 6
Cream of Tartar—
Marseilles, 2 cks.
Dyestuffs—
Alizarine
Rotterdam, 45 cks. J. Ran[illegible]
1 cs. &
Aniline
Rotterdam, 8 cks. J. Ran[illegible]
3 bxs. 36 brls. 6 cs. &
Extracts
Fiume, 340 brls.
New York, 22 bxs.
Glue—
Rouen, 72 cks. 22 bls.
Antwerp, 4 10
Guano—
Christiania, 1 bg.
Guttapercha—
Hamburg, 49 bls.
Ochre—
Rouen, 52 cks.
Paint—
Montreal, 21 cs.
New York, 1 bx.
Painters' Colours—
Antwerp, 7 cs.
Pyrites—
Huelva, 1,704 t. Tharsis Su[illegible] & Copper Co.
Salt—
Hamburg, 2 cs.
Saltpetre—
Hamburg, 59 cks.

Soap—
Boston, 243 bxs.
Rouen, 4 cs.
Fiume, 27 G. & J. Boyd
" 27 Jas. Bunten & Co.
" 42
New York, 1,000 bxs.

Soda—
Hamburg, 6 cks.

Sodium Fluoride—
Hamburg, 1 ck.

Starch—
Antwerp, 190 cs.
Fiume, 200 bgs.
Rotterdam, 100 cs. J. Rankine & Son

Tallow—
Boston, 145 brls.

Tartar—
Bordeaux, 38 cks.

Yarnish—
New York, 10 brls.

Waste Salt—
Hamburg, 100 t. 898 bgs. 270 cks.

White Lead—
Rotterdam, 50 cks. 7 pks. J. Rankine & Son

Wood Pulp—
Oporto, 250 bls.
Drontheim, 320
Christiania, 1,203

Zinc White—
Rotterdam, 40 pks. J. Rankine & Son

TYNE.

Week ending May 21st.

Barytes—
Antwerp, 300 bgs. Tyne S. S. Co.
Rotterdam, 202 "

Benzine—
Antwerp, 2 dms. Tyne S. S. Co.

Burnt Ore—
Drontheim, 480 t. Bede Metal & Chemical Co.

Carbolic Acid—
Bergen, 1 tin P. H. Matthiesen & Co.

Chrome Alum—
Antwerp, 4 cks. Tyne S. S. Co.

Colours—
Rotterdam, 2 cks. Tyne S. S. Co.
Antwerp, 2 "
Hamburg, 2 bgs.

Glue—
Hamburg, 16 cs.

Manganese—
Hamburg, 10 cs.

Ochre—
Rotterdam, 1 cs. Tyne S. S. Co.

Saltpetre—
Hamburg, 20 cks.

Saltpetre Salt—
Hamburg, 420 t.

Sodium Nitrate—
C. Buena, 11,602 bgs. J. Swan & Co.

Stearine—
Antwerp, 14 bgs. Tyne S. S. Co.

White Lead—
Antwerp, 12 cks. Tyne S. S. Co.

Wood Pulp—
Christiania, 1,360 bls.
Rotterdam, 102 Tyne S. S. Co.

GOOLE.

Week ending May 18th.

Acetic Acid—
Antwerp, 40 crbys.

Alizarine—
Rotterdam, 13 cks. 1 cs.

Alkali—
Calais, 14 cks.

Aniline—
Rotterdam, 397 cks. 88 cs.

Antimony—
Boulogne, 4 cks.

Anthracene—
Boulogne, 5 cks.

Bark—
Antwerp, 300 bgs.

Barytes—
Antwerp 18 cks.

Caoutchouc—
Boulogne. 5 cks.

Chemical Salts—
Hamburg, 2 cs.

Copper Pyrites—
Seville, 920 t.

Dyestuffs *(otherwise undescribed)*
Boulogne, 3 cks. 1 cs. 179 pks.

Extracts—
Hamburg, 1 ck.

Farina—
Hamburg, 100 bgs.

Glue—
Dunkirk, 4 cks.

Grease—
Boulogne, 1 ck.
Dunkirk, 40

Iron Pyrites—
Seville, 1,025 t.

Logwood—
Progresso, 600 t.

Ochre—
Calais, 40 cks.
Dunkirk, 9

Phosphate—
Dunkirk, 2,200 bgs.

Potash—
Calais. 16 dms.
Dunkirk, 6 cks. 50
Rotterdam, 21

Saltpetre—
Rotterdam, 200 bgs.

Size—
Hamburg, 6 cks.

Sugar of Lead—
Hamburg, 15 cks.

Yarnish—
Hamburg, 1 ck.

Waste Salt—
Hamburg, 190 t. 170 cks. 154 bgs.

Wood Pulp—
Rotterdam, 50 bls.

GRIMSBY.

Week ending May 21st.

Albumen—
Hamburg, 2 cks.

Barytes—
Hamburg, 20 cks.

Caoutchouc—
Rotterdam, 2 cs.

Charcoal—
Rotterdam, 2 cs.

Chemicals *(otherwise undescribed)*
Hamburg, 4 cs.

Colours—
Antwerp, 25 cks. 72 pks.
Hamburg, 25 12 cs. 68
Rotterdam, 2

Dyestuffs *(otherwise undescribed)*
Dieppe, 10 cks.

Extracts—
Antwerp, 35 cks.

Farina—
Hamburg, 100 bgs.

Plumbago—
Hamburg, 1 cs.

Starch—
Antwerp, 40 cs.

Wood Pulp—
Fredrikshald, 2,018 bls.

Zinc Ashes—
Hamburg, 5 cs.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 25th.

Acids—
Bombay, 30 cs. £31

Alkali—
Hamburg, 10 t. £385

Alum—
Samarang, 5 t. 18 c. £30

Ammonia—
Cologne, 30 dms. £242
Durban, 2 t. 4 c. 62
Delagoa Bay, 10 cs. 13

Ammonium Carbonate—
Stettin, 1 t. 18 c. £46
Bordeaux, 10 cks. 30
Calcutta, 5 Broome, 19

Ammonium Chloride—
Trebizonde, 1 t. 2 c. £30

Ammonium Sulphate—
Samarang, 150 t. 2 c. £1,387
Grenada, 2 19
Bremen, 50 420
Ostend, 50 500
Amsterdam, 150 1,350
Hamburg, 50 450
St. Lucia, 10 90
Valencia, 51 1 485

Anhydrous Ammonia—
Dusseldorf, 15 cylds. £35
Antwerp, 21 75

Arsenic—
New York, 30 t. 2 c. £580

Borax—
Hamburg, 2 t. 4 c. £100
Brisbane, 2 11 90
Braila, 15 13
Cologne, 1 4 21
Rotterdam, 50 cks. 75

Calcium Chloride—
Durban, 3 t. £11

Carbonic Acid Gas—
Channel Is., 97 tubes £37

Caustic Potash—
Nelson, 13 c. £21

Caustic Soda—
Nelson, 4 t. 4 c. £21
Melbourne, 9 8

Chemicals *(otherwise undescribed)*
Boulogne, 4 cks. £80
Amsterdam, 1 3 kgs. 49
Hamburg, 15 31 370
Colombo, 7 cs. 12
Pt. Elizabeth, 9 pks. 19
Wellington, 35 36
Genoa, 10 56
Antwerp, 5 60
Paris. 8 18
Karachi, 50 kldks. 66
Sydney, 26 73
Adelaide, 136 188
Melbourne, 37 32
Broome, 2 cs. 20

Citric Acid—
Calcutta, 1 c. £7
Sydney, 10 56
Durban, 2 11
Rotterdam, 1 t. 2 115
Bombay, 8 52
Cologne, 1 ck 12
Karachi, 2 pks. 17
Pt. Elizabeth, 1 7
Nelson, 1 9
Antwerp, 10 56

Coal Products—
Aniline
New York, 61 dms. £1,830
Wellington, 2 brls. 60
Calcutta, 1 cs. 17
Melbourne, 4 30
Anthracene
Rotterdam. 371 cks. £1,055
Gothenburg, 250 193
Benzine
Melbourne, 145 dms. £88
Benzol
Antwerp, 5 dms. £35
Le Treport, 114 cks. 175
Boulogne, 93 260
Carbolic Acid
Hamburg. 38 cks. 8 dms. £177
Newport News, 25 110
Pt. Elizabeth, 30 26
Ludwigshafen, 25 132
Creosote
Newport News, 1 cs. £11
Gibraltar, 20 brls. 22
New York, 450 cks 317
Bayonne, 62,322 galls. 799
St. Malo, 22,514 212
Naphtha
Treport, 31 brls. £95
Naphthaline
New York, 18 cks. £114
Antwerp, 1 166 bgs. 39
Hamburg, 10 100 147
E. London, 8 pks. 14
Pitch
Melbourne, 20 brls. £14
Boston, 500 cks. 150
Dunkirk, 707 t. 750
Dusseldorf, 56 125
Antwerp, 2,4 0 2,410
Chantenay, 1,270 1,340
Raumo, 200 190
Hochfeld 145 198
Helsingfors, 120 114
New York, 1,527 640
Montreal, 260 80
Alexandria, 250 78
Philadelphia, 250 80
Prussian Blue
Ghent, 12 kgs. £28
Tar
St. Petersburg, 1,900 brls. £3,380
Pt. Elizabeth, 700 dms. 48
Delagoa Bay, 20 5
Trinidad, 10 8
Durban, 80 7
Raumo, 832 rnlts. 458
Helsingfors, 950 523
Harbour Breton, 10 6

Coal Products *(otherwise undes.)*—
Aden, 21 dms. £28
Singapore, 30 29

Copper Sulphate—
Bordeaux, 42 t. 10 c. £702
Paris 5 1 75
Wellington, 1 16
Genoa, 72 1,215
Leghorn, 20 337
Nelson, 1 18
Naples, 81 1,358
Braila, 10 10

Disinfectants—
Melbourne, 165 pks. 10 cs. £153
Paris, 9 14
Hamburg, 10 cks. 17
Colombo, 688 188
Cape Town, 40 174 99
Sydney, 148 43 209
Durban, 40 1 —
Calcutta, 622 dms. 62
Shanghai, 25 175

Glycerine—
Hamburg, 20 t. 8 c. £490

Manure—
Bordeaux, 15 t. £70
Colombo, 25 175
St. Lucia, 10 80
Valencia, 588 18 c. 2,065

Mercuric Chloride—
Bombay, 5 cs. £54

Nitric Acid—
Channel Is., 56 crbys. £98
Durban, 6 cs. 10

Oxalic Acid—
Calcutta, 20 cks. £34
Sydney, 1 t. 1 c 38

Pearl Ash—
Sydney. 1 t. 3 c. £18

Picric Acid—
Hamilton, 3 c. £25

Potash—
Melbourne, 1 t. 8 c. £32
Antwerp, 12 cks. 66
Brussels, 10 80

Potash Salts—
Auckland, 12 t. 18 c. £1,050

Potassium Chlorate—
Santos, 10 c. £15

Potassium Cyanide—
Charters Towers, 6 t. 13 c. £720
Townsville, 12 17 1,560
Fremantle, 10 47
Durban, 5 555
New York, 200 cs. 972
Sydney, 1 6 130
Melbourne, 1 16 126

Saltpetre—
Melbourne, 2 t. £41
Santos, 5 11 c. 113
Pt. Elizabeth, 11 12
Corunna, 10 18
Oporto, 7 7 138
Nelson, 10 12

Sheep Dip—
B. Ayres, 8 cks. 40 kgs. £325
Launceston 140 dms. 26 pks. 1 cs. 106
Calcutta, 1,325 80
Cape Town, 10 8
Hobart, 35 30
Sydney, 9 t. 13 c. 220

Soap (Powder)—
Sydney, 10 t. 6 c. £200

Soda—
Melbourne, 1 t. £6
Madras, 3 c. 7
Rotterdam, 5 9 30
Cape Town, 12 7 39

Soda Crystals—
Delagoa Bay, 1 t. 5 c. £5

Sodium Bicarbonate—
E. London, 2 t. 15 c. £21
Durban, 1 16 10
Hobart, 2 5 19
Sydney, 1 24
Pt. Elizabeth, 10 7
Madras, 1 7

Sodium Carbonate—
Durban, 1 t. £21

Sodium Silicate—
Nelson, 2 t. 13 c. £12

Sodium Sulphate—
Ghent, 50 t. £75

Sulphur—
E. London, 40 cs £15
Nelson, 2 t. 14
Cape Town. 13 c. 6

Sulphur Chloride—
Dunkirk, 2 cs. £10

Sulphuric Acid—
Durban, 25 cs. £19

Superphosphates—
Bluff, 100 t. £275
Auckland, 80 230
St. Kitts, 8 23

Tartaric Acid—
Pt. Elizabeth, 8 c. £46
Bombay, 2 10

LIVERPOOL.

Week ending May 18st.

Acetate of Lime—
Lisbon, 19 c. £10

Acetic Acid –
Lisbon, 10 cks. £10
Montereg, 1 c. 2 q. 5

Alkali—
Kingston, 10 t. 10 c. 2 q. £60

Alizarine—
Sydney, 1 kg.

Alum—
Sydney, 1 t. 2 c. 3 q. £6
Melbourne, 1 2 2 6
Pernambuco, 2 10
Oran, 6 15 34
Rio de Janeiro, 16 14

Aluminous Cake—
Calcutta, 22 t. 1 c. 2 q. £79
Melbourne, 5 19 3 18

Ammonium Carbonate—
Antwerp, 4 c. £6
Santos, 1 t. 7 42
Montreal, 3 6 75

Ammonium Chloride—
Genoa, 3 t. 2 c. £54
Tampico, 5 3 q. 5
New York, 25 17 494

Ammonium Sulphate—
Barbadoes, 25 t. £225
Valencia, 140 19 c. 2 q. 1 295
Cullera, 100 916
Torre del Mar, 21 189
Almoneca, 21 10 193
Samarang, 215 6 1 1,917
Sourabaya, 46 11 395
Kingston, 5 45
Las Palmas, 20 185
Madeira, 2 18
St. Louis, 50 10 453
Gd. Canary, 10 95
Philadelphia, 20 200

Antimony Sulphide—
New York, 14 c. 1 q. £28

Barium Chloride—
Pernambuco, 11 c. 3 q. £7

Bleaching Powder—
Boston, 79 cks.
Halifax, 2
New York, 269
Philadelphia. 236
Rio de Janeiro, 8 cs.
Rotterdam, 48
Rouen, 9
Stockholm, 13
Townsville, 3 c £7
Valparaiso, 11 3 q. 5

Borax—
Piræus, 13 c. £12
Galatz, 1 7 22
Bourgas, 5 1 5
Montreal, 13 0 3 197
Antwerp, 3 10 52
Monterey, 8 3 10
E. London, 60 cks. 51
Melbourne, 1 t. 2 14
Vera Cruz, 3 4 4 42
Algoa Bay, 5 6
Rotterdam, 2 15 40

Calcium Chloride—
New York, 15 t. 10 c. £35
Sydney, 5 1 11
Leghorn, 3 1 7
Odessa, 30 5 60

Carbolic Acid—
Algiers, 9 c. 3 q. £32
New York, 7 t. 16 5 313
Rotterdam, 15 1,033
Hamburg, 6 10 8 232
Paris, 4 13 4 46

Caustic Potash—
New York, 2 t. 11 c. £61

Caustic Soda—
Antwerp. 155 dms.
E. London, 11 pkgs.
Hamburg, 30
Hamilton, 95
Hong Kong, 100
Lisbon, 35
Malaga, 30
Molfetta, 75
New York, 20
Odessa, 203
Oporto, 60
Rio de Janeiro, 8
Rio G. do Sul, 100
St. Nazaire, 28
San Sebastian, 8 brls.
Santos, 100
Sydney, 75
Tripoli, 21
Vera Cruz, 100
Rotterdam, 51

Chemicals *(otherwise undescribed)*
Calcutta, 77 t. 8 c. 3 q £207
Melbourne, 1 4 8
Philadelphia, 13 8 399
Yokohama, 3 15 100

China Clay—
Calcutta, 140 cks.
Vera Cruz, 3 bgs.

Chromium Oxide—
Hamburg, 10 c. £30

Citric Acid—
Monterey, 2 c. £14
Santos, 10 3 q. 57

Cobalt Oxide—
Antwerp, 2 cs. £85

Copperas—
Karachi, 30 t. 10 c. £82

Copper Sulphate—
Rouen, 60 t. 11 c. 9 q. £1008
Galatz, 6 6
B. Ayres, 1 19 1 32
M. Video, 2 2 38
Bordeaux. 551 12 9,468
St. Nazaire, 18 17 1 320
Monterey, 14 2 11
Naples, 106 14 1 1,669
Genoa, 128 1 5 2,025
Fiume, 5 3 77
Venice, 40 11 5 645
Smyrna, 1 4 18
Chalcis, 2 8 37
Ancona, 32 5 2 502
Bari, 9 14 2 112
Leghorn, 18 12 283
Piræus, 14 3 12
Oporto, 4 18 3 79
Rio de Janeiro, 9 2 8
Tampico, 2 7 3 56
Batoum, 35 17 1 591
Bourgas, 5 3 1 63
Paris. 5 11 3 92
Algiers, 4 18 82
Braila, 9 10 168
Palermo, 1 19 31
Ghent, 10 1 158
Messina, 4 13 74
Trieste, 19 1 336
Fiume, 10 2 169
Antwerp, 12 14 199
Odessa, 2 30
Nantes, 22 7 1 355

Cream of Tartar—
Bordeaux, 8 c. £28

Creosote Salts—
Bordeaux, 300 brls.

Disinfectants—
Melbourne, 170 kgs. 3 cs. —
Calcutta, 3 t. 10 c. £2
Montreal, 16 50
Para, 5 3 q. 7

French Chalk—
Pernambuco, 16 bxs.

Lead Acetate—
Calcutta, 5 c. £9

Magnesia—
Lisbon, 15 cks.
Vera Cruz, 3 cs.

Magnesium Chloride—
Oporto, 16 dms.
Rouen, 20

Manure—
Rouen, 39 t. 17 c. £206
Penang, 25 3 3 q. 212
Maceio, 2 19 3 10

Oxalic Acid—
N Zealand, 22 t. £600
Boston, 14 10 c. 400
Genoa, 6 9
San Francisco, 10 cks. 85

Oxide of Iron—
Niobe, 2 c. 1 q. £25
N. Zealand, 6 t. 79
Lisbon, 34 cks. 20

Paint—
Bombay, 21 dms.
B Ayres. 43 cks.
Constantinople, 580 kgs.
Coquimbo, 15 cs.
Hamburg, 9
Havre, 44 pks.
Jeremie, 3
Malta, 160
M. Video, 4 cs.
Rotterdam, 8 pks.
St. Croix, 36
Santos, 41
Talcahuano, 6

Painter's Colours—
Cavea, 40 kgs.
Mollendo, 15 pks.
Pernambuco. 11 brls.
Rio de Janeiro, 11
Valparaiso, 50 195

Paraffin Wax—
Naples, 100 bgs.
Palermo, 10
Rouen. 10 cs.

Phosphate Rock—
New York, 53 t. £160

Phosphorus –
B. Ayres, 30 cs. £252
M. Video, 5 c. 41
Yokohama, 1 t. 2 230
Hiogo, 6 2 1,060
Shanghai, 18 cs. 150
Hong Kong, 9 75

Potash—
Rosario, 16 c. 4 q. £23

Potassium Bichromate—
Constantinople, 1 t. 16 c. £63
Montreal, 2 3 76
Vera Cruz, 9 3 q. 17

Potassium Carbonate—
Baltimore, 3 t. 6 c. £90

Potassium Chlorate—
Ancona 1 t. £30
Montreal. 12 10 c. 363
Riga. 12 10 356
Gutujewsky, 36 15 1,057
Tampico, 7 9 2 q. 350
Hiogo, 17 10 275
Rio de Janeiro, 1 30
Bari, 3 87
Vera Cruz, 2 62
Hamburg, 10 15
Odessa, 2 60

Salammoniac—
Kustendjie, 1 t. 3 c. £20
Vera Cruz, 9 16
Bourgas, 12 2 q. 20
Naples, 1 2 32

Salicylic Acid—
Townsville, 1 c £19

Salt—
Amsterdam, 110 t.
Antwerp 100
Baltimore, 500
Barbadoes, 600 sks.
Batanga, 19 12 c.
Boston, 325
Brisbane, 130
B. Ayres, 42
Cape Town, 44 12
Chicago, 2,000 bgs. 200 t.
Egwanga, 40 3
Iceland, 200
Montreal, 40
N. Orleans, 100
Old Calabar, 60 4
Opobo, 40 3
E. London, 27
Portland, Or., 850
Rangoon, 1,101
Rio G. Do Sul, 71 8
Salt Pond, 3 3
Wellington, 6
Hamilton, 40

Saltpetre—
Pernambuco, 5 t. 14 c. 1 q.

Sheep Dip—
B. Ayres, 8 t. 18 c. 2 q.
Melbourne, 38 17 3

Soap—
Accra, 120 bxs.
Alexandria, 10 c.
Amsterdam, 270 cs.
Antwerp, 100
Axim, 200 pks.
Calcutta, 3
Capetown, 1,073 80
Gibraltar, 20
Grewtown, 150
Larnaca 10
Launceston, 25
Lausanne, 140
Limassol, 10
Oporto. 1
Penang. 75
Port Said, 81 6
Belize, 1,090
Rotterdam, 100
St. John's, 30
Savanilla, 3
Singapore, 460
Surinam, 1'5
Trin'dad, 1,000
Valo, 13 4
E. London, 125

Soda—
Boston, 56 brls.
Galatz, 150 bgs.
Monte Video, 15 kgs.

Soda Ash—
Baltimore, 37 cks.
Barcelona, 160 brls.
Boston, 237 bgs.
Catania, 100
Copenhagen, 190 pk.
Hiogo, 611 cks.
New York, 500
Oporto 10
Philadelphia, 1,300 19 tcs.
Toronto, 80
Vokohama, 100

Soda Crystals—
New York, 140 cks.
Piræus. 7 brls.
St. John (N.B.), 40
Toronto, 1 pk.

Sodium Bicarbonate—
Catania, 20 kgs.
Constantinople, 100
Copenhagen, 146
Delagoa Bay, 50
Gutujewsky, 900
Hong Kong, 24
Libau, 175
Malta, 25 bgs.
Newfairwater, 100 kgs.
Odessa, 435
Paris. 80 pks.
Rouen, 694
Samarang, 5 cks.
Syra, 10 brls.
Varna, 30
Bordeaux, 67 pks.

Sodium Bichromate—
Windsor, 2 cks.

Sodium Chlorate –
St. Petersburg, 10 kgs.
Santos, 1 brl.

Sodium Hyposulphite—
Portland, Or., 60 kgs.

Sodium Sulphate—
Baltimore, 65 t. 1 c.
Dunedin, N.Z., 3 10

Sulphur—
Natal, 16 t. 13 c.
Newfairwater, 60

St. Petersburg, 50 2 31
Montreal, 1,414 7 6,00

Sulphuric Acid—
Pernambuco, 18 c. £13
Tambode, Moru, 1 t. 11

Superphosphates—
Capetown, 50 t. £125
Valencia, 300 573

Tar—
Bordeaux, 250 cks.
Hamburg, 94 brls.
Karachi, 112
Philadelphia, 150

Tartaric Acid—
Santos, 10 c. 3 q. £58
Hamburg, 3 17

Varnish—
Leghorn, 5 cks.

White Lead—
Kentville, 2 cs.

MANCHESTER.

Period ending May 25th.

Aniline Oil—
Belgium, 3 dms.
Germany, 23 pks.

Aniline Salt—
Germany, 10 brls. 5 pns.

Chemicals (*otherwise undescribed*)
Bale, 2 cks. 16 kgs.
Rotterdam, 8 2 cs. 17
Germany, 5

Chrome Ore—
Belgium, 520 bgs.

Colours—
Belgium, 1 cs.

Logwood—
Rotterdam, 100 t.

Nitrous Oxide Gas—
Copenhagen, 1 cs.

Paint—
Bombay, 6 cs.

Paraffin Wax—
Hamburg, 50 cs.

Pitch—
Belgium, 3,025 c.

Tallow—
Germany, 7 cks.
Holland, 4

Toluol—
Germany, 15 dms.

HULL.

Week ending May 21st.

Alkali—
Abo, 69 cks.
Bergen, 2
Helsingfors, 5
Raumo, 1
Wasa, 111
Wyburg, 23

Ammonium Sulphate—
Copenhagen, 4 bgs.

Bleaching Powder—
Stettin, 1 ck.

Carbolic Acid—
Amsterdam, 198 cks.

Chemicals (*otherwise undescribed*)
Antwerp, 2 cks. 6 pks.
Bombay, 375
Christiania, 1 cs. 21
Copenhagen, 2 6 20
Drontheim, { 508 bgs. 15 cks.
Hamburg, 147
Helsingfors, 1
Rouen, 25
Riga, 1
Rotterdam, 3 204
St. Petersburg, 45 3 93
Stockholm, 1
Stettin, 2
Venice, 3
Wasa, 15
Wyburg, 30 kgs.

Cottonseed Oil—
Amsterdam, 406 c.
Antwerp, 116
Bremen, 266
Bordeaux, 19 brls.
Copenhagen, 135
Ghent, 135
Gothenburg, 151
Hamburg, 308
Rouen, 215
Rotterdam, 928
Stavanger, 34
Stettin, 343
Stockholm, 400

Dyestuffs (*otherwise undescribed*)
Christiania, 2 cks.
Gothenburg, 1

Linseed Oil—
Abo, 27 c.
Amsterdam, 200 4
Bergen, 27
Bombay, 32
Christiania, 410
Christiansand, 41
Copenhagen, 70
Drontheim, 139
Hamburg, 35

Manure—
Amsterdam, 20 cks.
Dunkirk, 13 t.
Pillau, 753

Paint—
Bergen, 1 ck.

Painters' Colours—
Abo, 1 ck.
Antwerp, 133 4 cs. 11 dms.
Bombay, 30
Bordeaux, 3
Christiania, 2 2
Copenhagen, 6 3 180
Dunkirk, 2
Drontheim, 100
Hamburg, 25 8
Helsingfors, 6
Rouen, 15
Rotterdam, 10 4
St. Petersburg, 240 6
Stavanger, 1
Stettin, 11 2
Stockholm, 16 1
Wasa, 276
Wyburg, 1

Pitch—
Antwerp, 426 t.
Dunkirk, 180
Rouen, 32 bgs.

Plumbago—
Riga, 2 cks.

Soap—
Christiania, 2 cs.
Copenhagen, 2
Helsingfors, 21
Stettin, 1

Tallow—
Amsterdam, 12 cks.
Gothenburg, 5
Stockholm, 16

Tar—
Amsterdam, 20 cks.
Antwerp, 125 t.
Bergen, 5 brls.
Christiania, 16 cks.
Copenhagen, 10
Dunkirk, 10
Helsingfors, 100
Rotterdam, 21
Wasa, 50

Turpentine—
Gothenburg, 5 cks.

Varnish—
Antwerp, 3 cks. 16 dms.
Bremen, 3
Copenhagen, 1 cs.
Drontheim, 3 brls.
Gothenburg, 1 1 cs.
Harlingen, 3
Rotterdam, 2
Stettin, 17

GLASGOW.

Week ending May 26th.

Ammonium Carbonate—
Christiania, £33

Ammonium Sulphate—
Amsterdam, 222 t. 10 c.
Spain, 80 8¼
Valencia, 533 5¾

Borax—
Christiania, £7

Carbolic Acid—
Brisbane, £43 12s
Rotterdam, £200

Caustic Soda—
Barcelona, 4 t. 6¼ c.
Brisbane, 15

Coal Products—
Benzol
Rotterdam, £165

Creosote Oil
Christiania, £63 5s.
Pitch
Hamburg, 111 t. 4 c.
Canada, £80
Tar
Christiania, £40 10s.
U.S.A., £50

Copper Sulphate—
Brisbane, £23

Dyestuffs (*otherwise undescribed*)
Rotterdam, £1

Extracts—
Antwerp, £40

Fustic—
Canada, £28

Gelatine—
Canada. £102

Lead Nitrate—
Montreal, £111
Rotterdam, £18 10s.

Linseed Oil—
Brisbane, 3 t. 2¼ c.
Cape Town, 19
Wellington, 2 10¼

Logwood—
Dunedin, £90
Lyttelton, 33

Paint—
B. Ayres, £480
M. Video, 152
Pt. Louis, 90

Painters' Colours—
Algoa Bay, £44
Brisbane, 357
Rockhampton, 33
Amsterdam, 40
Auckland, 534
Calcutta, 476
Canada, 201
Dunedin, 655
Invercargill, 30
Lyttelton, 69
Wellington, 20

Paraffin Wax—
Antwerp, £88
Fiume, 183
Trieste, 33
Barcelona, 55

Potassium Bichromate—
Antwerp, £219
Amsterdam, 2 t. 9 c.
Christiania, 14
Rotterdam, 85
U.S.A., 856

Rosin—
B. Ayres, £104

Salt—
Brisbane, 150 t.

Soap—
Barcelona, 6 t. 5¾ c.

Sodium Bichromate—
Amsterdam, 12½ c.
Antwerp, 4 t. 2
B. Ayres, 8½
U.S.A., 8 ¾

Tallow—
Rotterdam, 17 t. 13 c.

Tar Oil—
Antwerp, £100

Varnish—
Trieste, £41 10s.
Wellington, 27 15

Waste Salt—
Brisbane, £122

TYNE.

Week ending May 21st.

Alkali—
Amsterdam, 27 t. 11 c.
Rotterdam, 11 2

Alum—
Christiania, 5 t. 2 c.

Ammonium Carbonate—
Bergen, 10 c.

Ammonium Sulphate—
Amsterdam, 51 t. 9 c.

Anthracene—
Rotterdam, 1 t. 10 c.

Antimony—
Bergen, 6 c.

Barium Dioxide—
Hamburg, 1 t. 3 c.
Rouen, 25 14

Barytes Carbonate—
Hamburg, 10 t. 3 c.
Rouen, 36 1

Bleaching Powder—
Amsterdam, 19 t. 10 c.
Christiania, 42
Copenhagen, 2 10
Gothenburg, 2 9
Hamburg, 2 9
Rotterdam, 20 2
Trondhjeim, 8 8

Caustic Soda—
Antwerp, 118 t.
Christiania, 10 3 c.
Copenhagen, 2 13
Gothenburg, 60
Rouen, 4 18
Stavanger, 1 3
Wasa, 7 10

Carbolic Acid—
Rotterdam, 200 t.

Copperas—
Bergen, 1 t.

Litharge—
Antwerp, 2 t. 4 c.
Gothenburg, 4 1

Magnesia—
Hamburg, 2 t. 10 c.

Ochre—
Bergen, 10 c.

Paint—
Hamburg, 1 t. 13 c.

Salammoniac—
Gothenburg, 2 t. 4 c.

Soda—
Christiania, 33 t. 15 c.
Gothenburg, 14 19
Rotterdam, 15 3

Sodium Nitrate—
New York, 1,000 t.

Sulphur—
Christiania, 100 t.

Superphosphates—
Christiania, 7 t. 10 c.

Tallow—
Rotterdam, 10 t.

Tar Oil—
Hamburg, 1 t. 8 c.

White Lead—
Copenhagen, 2 t. 10 c.

Zinc Ashes—
Rotterdam, 5 t. 3 c.

GOOLE.

Week ending May 18th.

Chemicals (*otherwise undescribed*)
Antwerp, 26 cks.

Coal Products (*otherwise undes.*)—
Antwerp, 1 ck. 1 cs.
Boulogne, 41
Ghent, 2 dms.
Rotterdam, 15 1

Colours—
Boulogne, 5 cks. 1 cs.
Ghent, 6

Dyestuffs (*otherwise undescribed*)
Ghent, 1 ck.

Grease—
Dunkirk, 6 cks.

Manure—
Boulogne, 153 bgs.

Pitch—
Antwerp, 902 t.
Dunkirk, 242

GRIMSBY.

Week ending May 21st.

Alkali—
Hamburg, 10 cs.

Chemicals (*otherwise undescribed*)
Dieppe, 5 cs.
Rotterdam, 80 dms.
Savanilla, 16

Coal Products (*otherwise undes.*)—
Dieppe, { 116 cks. 1 cs. 1 kg.

Colours—
Rotterdam, { 6 cks. 1 kg.
Savanilla, 5 cks.

Grease—
Hamburg, 6 cks. 6 cs.

Painters' Colours—
Antwerp, 1 kg.
Hamburg, 4 cks. 60 pks.

Pitch—
Milano, 20 brls.

PRICES CURRENT.

WEDNESDAY, June 1st, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
,, Glacial	,,		37	6
Arsenic S.G., 2000°	,,	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
,, (Cylinder), 30° Tw.	,,	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	,,	0	0	1¾
Oxalic	nett ,,	0	0	3¼
Phosphoric, 1750°	,,	0	0	11¾
Picric	,,	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
,, (monohydrate)	,,	5	10	0
,, (Pyrites, 168°)	,,	3	0	0
,, ,, 150°	,,	1	5	0
,, (free from arsenic, 145°)	,,	1	7	6
Sulphurous (solution) S.G. 1025	,,	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	,,	0	1	2
Arsenic, white powdered	nett per ton	17	15	0
Alum (loose lump)	,,	4	10	0
Alumina Sulphate (pure)	,,	4	0	0
Aluminoferric	,,	2	3	6
Aluminium (Ingot metal 98/99¾ %)	ne ,,	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
,, ·880=28° B.	,,	0	0	2¾
,, =24° B.	,,	0	0	1¾
,, Carbonate	nett ,,	0	0	3
,, Muriate	per ton	17	10	0
,, ,, (sal-ammoniac) 1st & 2nd	per cwt.	35/-	&	33/-
,, Nitrate	per ton	31	0	0
,, Phosphate	per lb.	0	0	3
,, Sulphate (grey) London	per ton	9	6	3
,, ,, (grey) Hull	,,	9	5	0
Aniline Oil (pure)	per lb.	0	0	5½
Aniline Salt ,,	,,	0	0	5
Antimony	per ton	36	0	0
,, (tartar emetic)	per lb.	0	0	6¾
,, (golden sulphide)	,,	0	0	9
Barium Chloride	per ton	6	17	6
,, Carbonate (native)	,,	3	10	0
,, Sulphate (native levigated)	,,	42/6	to	65/-
Bleaching Powder, 35 %	nett ,,	5	2	6
,, Liquor, 7 %	,,	3	10	0
Bisulphide of Carbon	,,	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	,,	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	,,	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	1	1
,, 50/90 ,,	,,	0	1	2
Carbolic Acid (crude 60°)	per gallon	0	2	0
,, (crystallised 40°)	per lb.	0	0	7
,, (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	,,	0	0	2½
,, (filtered for Lucigen light)	,,	0	0	4
Crude Naphtha 30 % @ 120° C.	,,	0	0	5
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	,,	2	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
Copper	per ton	51	2	6
,, Sulphate	,,	16	0	0
,, Oxide (copper scales)	,,	46	0	0
Glycerine (crude)	,,	26	0	0
,, (distilled S.G. 1250°)	,,	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
,, Sulphide (antimony slag)	,,	2	0	0
Lead (sheet) —	,,	15	0	0
,, Litharge Flake (ex ship)	,,	17	10	0
,, Acetate (white ,,)	,,	26	0	0
,, ,, brown ,,)	,,	17	10	0
,, Carbonate (white lead) pure	,,	17	0	0
,, Nitrate		20	0	0
Lime, Acetate (brown) (ex ship)	per ton	5	15	0
,, ,, (grey) (ex ship	,,	7	15	0
Magnesium (ribbon and wire)	per oz.	0	2	3
,, Chloride (ex ship)	per ton	2	10	0
,, Carbonate	per cwt.	1	17	6
,, Calcined Magnesia	per ton.	8	0	0
,, Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	,,	17	10	0
,, Borate	per cwt.	2	5	0
,, Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	,,	0	2	6
,, ,, Miscible, 60° O.P	,,	0	4	0
Oils:—				
Cotton-seed	per ton	17	5	0
Linseed	,,	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
,, (red)	,,	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
,, Carbonate, 90% (ex ship)	per ton	15	15	0
,, Chlorate	per lb.	0	0	3¾
,, Cyanide, 98%	,,	0	1	3
,, Hydrate (Caustic Potash) 90 %	per ton	23	0	0
,, ,, (Caustic Potash) 75/80 %	,,	19	0	0
,, Potash Hydrate Liquid 50 %	,,	11	0	0
,, Nitrate (refined)	per cwt.	1	1	0
,, Permanganate	per cwt.	3	2	6
,, Prussiate Yellow	per lb.	0	0	4½
,, Sulphate, 90 % (ex ship	per ton	9	15	0
,, Muriate, 80 % do.)	,,	8	15	0
Silver (metal)	per oz.	0	2	2⅝
Sodium (metal)	per lb.	0	2	9
,, Carb. (refined Soda-ash) 48 %	nett per ton, f.o.r. w'ks.	4	15	0
,, ,, (Caustic Soda-ash) 48 %	,, ,,	4	5	0
,, ,, (Carb. Soda-ash) 48%	,, ,,	4	0	0
,, ,, (Alkali) 58 %	,, ,,	4	2	6
,, ,, (Soda Crystals)	,, ,,	2	5	0
,, Acetate (ex-ship)	,,	11	5	0
,, Arseniate, 45 %	,,	14	7	6
,, Chlorate	per lb.	0	0	3¾
,, Borate (Borax)	net, per ton.	12	10	0
,, Bichromate	,, per lb.	0	0	3
,, Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton, 10 ton lots		8	5	0
,, ,, (74 % Caustic Soda) ,, ,, ,,		8	0	0
,, ,, (70 % Caustic Soda) ,, ,, ,,		7	2	6
,, ,, (60 % Caustic Soda) ,, ,, ,,		6	2	6
,, ,, (pure liquor 90° Tw.) ,, ,, ,,		3	15	0
,, ,, 77/78 % powdered (99 % hydrate)	,,	12	0	0
,, Bicarbonate	,,	6	10	0
,, Hyposulphite	,,	5	5	0
,, Manganate, 25%	,,	15	0	0
,, Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
,, Nitrite, 98 %	per ton	25	10	0
,, Phosphate	,,	9	10	0
,, Prussiate	per lb.	0	0	5¾
,, Silicate (glass)	per ton	4	10	0
,, ,, (liquid, 100° Tw.)	,,	3	7	6
,, Stannate, 40 %	per cwt.	3	2	9
,, Sulphate (Salt-cake)	per ton.	1	5	0
,, ,, (Glauber's Salts)	,,	1	7	6
,, Sulphide	,,	6	15	0
,, Sulphite	,,	5	0	0
Strontium Hydrate, 100%	,,	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
,, Barium, 95 %	,,	0	0	4
,, Potassium	,,	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	,,	6	3	9
,, Brimstone: Best Quality	,,	4	13	9
Superphosphate of Lime (26%)	,,	2	10	0
Tallow	,,	22	10	0
Tin Crystals	per lb.	0	0	5
,, English Ingots	per ton	70	0	0
Zinc (Spelter)	,,	19	5	0
,, Chloride (solution, 100° Tw.)	,,	6	0	0
,, Sulphate, Crystal	,,	6	5	0

THE

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LATE ADVERTISEMENTS.

WANTED Situation as Foreman in Chemical Works, possessing mechanical and chemical knowledge. Thoroughly understands the making of Naphthionate of Soda and other products.—A. Keil, 122, Pringle-street, Blackburn.

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CURRENT TOPICS.

CONGRESSES AND GOVERNMENTS.

WHILE we were going to press last week a Congress was being held, called by the International Association for the Protection of Industrial Property. The Congress concluded its labours on Friday in the same week, after passing a series of resolutions calculated, by those present, to aid and serve the object for which the Association was inaugurated.

We have no wish in any way to detract from the usefulness of such an Association, as no doubt the mature discussion of many of the pitfalls which beset international patent systems must be to the advantage, in the end, of inventors and manufacturers alike, but it certainly seemed to us very strange indeed that so few inventors and so few manufacturers were present to take part in the discussions. As a matter of fact nearly the whole, if not all, of the disputants were either patent agents or patent advocates, and as a consequence the subjects which were discussed were looked at almost entirely from a forensic point of view. It is no doubt of great use to all who consider this question to have the truly legal aspect set clearly before them, but in the almost entire absence of two parties to the understanding—the manufacturer and the inventor—too much stress should not be laid upon the resolutions which have been passed. The element most positively represented at the Congress was the French, and following this the German, each of which suggested and carried by force of numbers the special objects they had evidently combined to bring about. The English contingent was nowhere, although of all the systems of Patent Law we should think it was the English which was most in need of revision. On the third day of the Congress, and at the instance of M. Georges Maillard, a resolution was adopted dealing with the period during which a patent must be worked in the country of origin, and when an amendment or rider intended to overcome certain indefiniteness of working was proposed by Mr. Ivan Levinstein, it found no foreign supporters. We can quite understand why this should be so. Our English Patent Law is one of the most unjust pieces of legislation which has ever been arrayed against our inventors and manufacturers, and we can well understand that foreigners are only too content to let our laws stand where they are, provided they can only get rid of a few disabilities of their own making. There are several points from which the English Patent Law may be regarded, and the view from these points will not be a pleasant one except for those who make a trade out of the patent business. The examination of specifications prior to the grant of provisional protection is, in our opinion, so absurd a provision that we trust there is but little chance of its being adopted in this country, although the German delegates to the Congress appeared to be perfectly satisfied with the result of its working in the Fatherland. We can quite well understand why

this should be. When so many patents to foreigners are refused in Germany, Germany must benefit from so many inventions thus becoming public property. The smaller number of their own countrymen who are thus defrauded of their rights in their industrial property is so small a loss, compared with the great gain from foreigners, as to cause them to uphold the system. The question relating to the compulsory working of patents in the country of origin, which was mainly the subject of M. G. Maillard's resolution, has far too wide a bearing to be discussed in the short space we have at our disposal, but we will willingly throw open our pages to correspondents who wish to record their views on the matter. Evidently the French delegates were satisfied to a large extent with the law under which they are working, though at the same time they were anxious to secure some modification in the details of administration.

A more serious matter, however, was left entirely untouched. We have, over and over again, in these columns, pointed out that the English manufacturer has no one to be seriously afraid of but the Englishman. We have framed ridiculous laws supposed to be for the benefit of inventors and the public, and we have allowed these laws to be used by foreigners in a way precisely opposite to that which the framers originally intended. The great blot upon our Patent Law lies in the fact that a foreigner in a large way of business can obtain, without the slightest difficulty, protection for an invention, or for a supposed invention, or for a piracy upon an English invention, and he can then lock up that process and say that no one in the British Isles shall work it; and he is further able (being aided by our own laws upon the subject) to keep the public from gaining any advantage from competition. However such a law as this can be in any way advantageous to Englishmen we are quite at a loss to gather, and we would like to know why some serious attempt has not been made before this to remedy such a state of things.

As we have already remarked, the Congress just held was remarkable for the paucity of inventors, manufacturers, and the public present. It would be as well if these gentlemen considered deeply the effect of their abstention from such deliberations, and we point out to them that unless they take more interest in the patent question, the Patent Laws will be moulded, not according to equity and public need, but according to the views of those gentlemen whose minds have become narrowed by precedent; as it is well known that constant working with a Government department does not enlarge a man's ideas as to what is just between man and man. We do not wish to argue that the Congress has been fruitless, but we do appeal for a little leaven to enlarge the views of those who have taken part in this Congress, so that the results of the next may be rendered a little more palatable to Englishmen.

A GROSS INJUSTICE.

In another column will be found a report of the prosecution at the Thames Police Court of a superphosphate manufacturer for carrying on a manure works under Section 19 of the Public Health Act of 1891, to which we refer our readers.

The report, as it comes to us, gives but a sketch of the case. It does not show all that should be known, for on establishing the work for which Mr. Price has been fined it is not stated that he submitted his plans to the District Surveyor, who made some alterations in them, and then passed them for a chemical manure works. The premises had been used as a manure works for many years before, though only for storing and mixing manures, and not actually manufacturing the superphosphate in them. The work, it appears, was also registered under the Alkali, etc. Works Act, after a minute inspection by the District Government Inspector. It is most probable that Mr. Price had no idea that anything had been left undone when he was informed that he could not carry on manure works in the Metropolitan district. We think this is a piece of gross injustice, and shows how much chemical manufacturers have to put up with from the various inspecting authorities. Here was a man who had erected plant, probably spending the savings of a lifetime, for a works which had actually satisfied the Government Inspector, and yet, from some cause or another, he is told afterwards that he had no right to establish such a works. The Board who owns such a valuable surveyor who altered the plans and then passed them, should at least, in common honesty, return Mr. Price the whole of the money he has expended upon his works, informing him at the same time that the state of the East End of London is so prosperous, and that so few unemployed exist in their specially salubrious locality, that they wish him to be good enough to carry his works into some less favoured neighbourhood.

Parliamentary Jottings.

THE USE OF PHOSPHORUS IN MATCH MAKING.

Mr. Tennant asked the Home Secretary whether he was aware that in France the Government issue of lucifer matches to strike everywhere was marked "Sans phosphore;" and whether, in view of the serious disclosures revealed by the recent prosecution of Messrs. Bryant and May, and the statement by that firm that it was only for the manufacture of the matches which strike everywhere that yellow phosphorus was required, he would confer with the French Government with a view to prohibiting the use of yellow phosphorus.

Similar questions were asked by Mr. Steadman and Mr. Holland.

Mr. M'Arthur ashed whether the Home Secretary was aware that the danger of phosphorus poisoning might be obviated by the use of modern machinery for making and boxing matches without close proximity to the worker and with improved ventilation.

Sir M. White Ridley replied that he had been made acquainted with these inventions by reports from his Chief Inspector. He had them under consideration, but it was too early for him to say anything definite. Replying to the questions on the paper the right hon. gentleman said: I have already stated that I am making inquiries as to the use of yellow phosphorus in France and other foreign countries. The suggestion of a conference seems to me somewhat premature at the present stage. I may also say, in reply to the questions of the members for Glasgow and Stepney on the same subject, that the prosecution of Messrs. Bryant and May they refer to was ordered by me, and is the result of inquiries made by the factory inspectors at my request. I am now considering what further steps I shall take in the matter, particularly in the direction of strengthening the special rules and securing additional medical inspection. But though I have power to regulate I have none to prohibit the use of yellow phosphorus. I should like it to be clearly understood that the medical man who failed so seriously in his duty in this case was the works doctor and not the certifying surgeon. The latter, who I may say emphatically, by the nature of his appointment is a perfectly independent medical man, was in no way concerned in this case, and had no power to intervene. The answer to the remaining question is that the lady inspectors have their headquarters in London, and their services are available in the fullest manner for the inspection of the match factories in the London district.

Mr. Steadman asked if this firm of Bryant and May who had been the cause of the death of this man were not equally responsible for his death, so far as a criminal prosecution was concerned.

The Speaker: Order, order. The hon. member must give notice of a question of that kind, but it would have to be considerably altered.

Mr. J. Burns asked whether, considering the proved and serious neglect of duty by Bryant and May's medical officer, the Home Secretary would lay such conduct before the Royal College of Surgeons for their consideration and their publicly expected duty in relation thereto.

Sir M. White Ridley: That is a delicate question of which I should have notice, but the whole question is under my most serious consideration.

Mr. Burns: I will repeat the question.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Apparatus for Concentrating Sulphuric Acid. S. Dreyfus and The Clayton Aniline Co., Ltd. 11,544. May 23.
Storage and Transport Vessels for Calcium Carbide. H. Ely. 11,564. May 23.
Treating Sewage. F. M. and D. D. Spence. 11,574. May 23.
Treating Logwood Colouring Matter. J. E. and C. S. Bedford. 11,585. May 23.
Alloys. E. Stassano. 11,604. May 23.
Treating Peat. T. and E. Steenberg. 11,619. May 23.
Manufacture of Copper Sulphate. J. Lagache. 11,633. May 23.
Purifying Caustic Alkalies. G. W. Johnson. 11,650. May 23.
Printing with Indigo. J. Y. Johnson. 11,653. May 23.
Purifying Gas. E. Evans. 11,676. May 23.
Electro-deposition of Metals. W. Dunn and W. J. Twining. 11,678. May 23.
Treating Distillery Bye-products. J. and J. F. Watt. 11,724. May 24.
Manufacture of Nitrates of Soda, Potash, and other Soluble Salts. F. G. Welch. 11,780. May 24.
Protecting Iron, etc., from Oxidation while Heating. F. Siemens. 11,801. May 24.
Collecting Ore "Fumes." F. Ellerhausen. 11,823. May 24.
Treating Sulphide Ores. J. Armstrong. 11,895. May 25.
Treating Flue Dust from Sulphide Ores. R. Threlfall. 11,940. May 26.
Using Spent Esparto, etc., Liquor as Fuel. R. Cremer. 11,949. May 26.
Apparatus for Using Spent Esparto, etc., Liquor as Fuel. R. Cremer. 11,974. May 26.
Producing Soluble Starch. F. Virneisel. 12,020. May 26.
Damp Resisting Paint. T. Cardiff. 12,038. May 27.
Using Sulphite Pulp Spent Liquor. R. Cremer. 12,040. May 27.
Packing Caustic Alkalies. H. Precht. 12,075. May 27.
Reducing Lead and Zinc Oxides. J. A. Mays. 12,082. May 27.
Grinding Mills. C. Walton. 12,116. May 28.
Improvements in Cyanide Gold Recovery. R. A. Poore. 12,163. May 28.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Improvements Relating to the Separation of Fats and Oils into Glycerine and Fatty Acids, and to Compounds for Use therein. H. H. Lake, 45, Southampton Buildings (communicated by E. Twitchell, of Cincinnati, Ohio, U.S.A.) Eng. Pat. 4,741. February 25, 1898.

Sulpho-stearic or sulpho-oleic acid is used as a decomposing agent; but as these and similar bodies are unstable, preference is given to a re-agent prepared by mixing equivalents of commercial oleic acid and benzol or phenol, etc., and treating the mixture with sulphuric acid. Water is added after the action of the acid has subsided to wash out excess of vitriol, when the re-agent separates as a clear oil. One per cent. of this re-agent is added to the melted fat or oil to be treated (to which water has been added), and heated in an open tank with live steam. The boiling process is completed in 12 to 20 hours, but if about 5 per cent. re-agent is used six to twelve hours will suffice. Actual boiling is not essential if the fat is well agitated. After settling the glycerine and water are drawn from the bottom of the tank. The re-agent is precipitated from the liquid fats by vitriol, or lime, or alum. It is claimed that a larger percentage of fatty acids is obtained without any discolouration, and no expensive plant is required. There is no need for any subsequent refining either of the fatty acids or the glycerine.

Improvements in the Manufacture of Acetic Acid. E. G. Scott, 67, Lord-street, Liverpool. Eng. Pat. 12,952. May 25, 1897.

The crude acid is distilled with steam at 100° C. under a vacuum. In this way steam and vaporised acid pass off with little or no tarry matters. The vapours are bubbled through a series of condensers containing a layer of weak acid. The temperature of the first condenser is regulated by a coil, through which a cooling or heating medium can be circulated. By this arrangement more acid than steam is condensed, so that the condensers contain a liquid growing weaker and weaker in acid. The vapours are finally passed through a neutraliser containing caustic soda. A vacuum is maintained through the whole plant. The caustic method of absorption may be employed from the first if preferred. There is one figure.

New or Improved Method of Raising and Forcing Liquids by Means of Compressed Air or Gases, and Apparatus therefor. J. G. Lorrain, Norfolk House, Victoria Embankment, W.C. (communicated by The Ingersoll-Sargeant Drill Co., 26, Cortlandt-street, New York). Eng. Pat. 836. Jan. 11, 1898.

The arrangement of the compressor and compressed air reservoir is the same as usual. The lower end of the delivery pipe, which dips into the well, is enclosed in a jacket, the bottom of which is open and sealed by the water in the well. When the drilled well is provided with an air-tight casing it can be used to answer the purpose of the jacket. The latter projects some way below the end of the delivery pipe. Compressed air is admitted into the jacket, the water is driven back below the end of the delivery pipe up which some of the air escapes. The pressure being thus suddenly reduced the water rushes back quickly, rises in the pipe and jacket until checked by the pressure, restored by the compressed air. Once more the water in the jacket is depressed, but this time the air in escaping lifts the column of water in the lower extremity of the delivery pipe. This pulsating action is in course of progress continuously, a fresh column of water being lifted each time, and eventually discharged (water and air alternately) at the top of the delivery pipe. There are two drawings of the plant.

Improvements in the Manufacture of Fats suitable for Lubricating Purposes. G. Pommerhauz, 19, Edelhofgasse, Vienna XVIII. and C. Ristic, 13, Singerstrasse, Vienna I. Eng. Pat. 3,585. February 12, 1898.

The chief feature is the use of a decoction of Iceland moss, which is prepared by boiling with water to form a gelatinous mass. To this is added a mixture composed of neutral and ordinary wool fat, and mineral oil or train oil, etc. The whole is finally thoroughly mixed with a caustic lye of 38° B., or a solution of salt (1 : 3), and allowed to stand 24 hours. The mass so produced is said to possess great softness and lubricating power.

An Improved Detergent, applicable also for Preventing Incrustation in Boilers, for Preventing Rust, and for similar Purposes. E. J. Mills, 60, John-street, Glasgow. Eng. Pat. 4,762. February 26, 1898.

The composition in its concentrated form is prepared by mixing 24 parts of caustic soda, 8 of caustic potash, 36 slaked lime, 8 of resin oil, and 20 of water. The alkalies are dissolved in the water, the lime stirred in, and then the oil. The paste is diluted according to the use it is to be put to. For removing paint, grease, tar, or varnish, the paste is spread in a thin layer, and worked about with a steel wire brush.

THE SNAEFELL MINE FIRE.

DR. C. le Neve Foster, one of Her Majesty's inspectors of mines, and Mr. A. E. Miller have furnished the Home Secretary with reports upon the circumstances attending the underground fire which occurred at the Snaefell Lead Mine, Isle of Man, on May 10th, 1897, and by which 20 lives were lost. The mine, Dr. Foster points out, can scarcely be said to have a good record. He has had to make complaints about the ventilation upon various occasions, though he admits that during the few days immediately preceding the accident it was in a condition complying with the present vague wording of the statute. The fire, he concludes, was caused by a lighted candle being stuck up against one of the timber supports, and that the deaths of the 20 men were due to carbon monoxide produced by the timber burning in the mine. Dr. Foster suggests, as a means of preventing outbreaks of this character, either that the timber used for supports should be rendered non-flammable—that is, not easily ignitible—or that it should be replaced by non-combustible materials such as masonry, brickwork, concrete, iron, or steel. If a fire occurred, like that at Snaefell, its consequences might be rendered less deadly by the adoption of the following remedies:—(1) Inspection previous to work; (2) mechanical ventilation; (3) cages for raising and lowering men; (4) apparatus for penetrating into noxious gases; and (5) supply of compressed oxygen. If there had been a rule prohibiting the men generally from entering the mine until after an inspection of the working places, the death-roll would have been much smaller. The rescue of the sufferers and the recovery of the bodies was greatly impeded by the want of proper appliances for raising and lowering the men. The use of oxygen in restoring sufferers from carbonic oxide poisoning, Dr. Foster says, is now too well established to need any special remarks (vide *C.T.J.*, No. 492). The report closes with a tribute to the heroic conduct of Captain Kewley, resident agent, and to the pluck of the bands of rescuers and of Mr. Williams, assistant to the inspector.

MANCHESTER AND THEIR SEWAGE EXPERTS.—The Rivers Committee of the Manchester Corporation have selected three gentlemen to advise them in the matter of sewage disposal—namely, Mr. Baldwin Latham, C.E., Dr. W. H. Perkin, professor of organic chemistry at Owens College, and Dr. Percy Frankland, of Birmingham.

BORACIC ACID IN FOOD.

IMPORTANT TEST CASE.

At Pontypridd Police court, last week, Enoch J. Rees, grocer, Galley-road, Ystrad, was charged under Section 6 of the Food and Drugs Act, 1875, with selling ham containing 0·6 per cent. of boracic acid.—Mr. Allen appeared to prosecute on behalf of the Glamorganshire County Council; Mr. Abel Thomas, Q.C., M.P., defended, being instructed by Mr. George David (Cardiff) and Mr. Arthur J. Giles—The case had already been before the bench, and had been adjourned, in order that a sample of the ham might be analysed by the Somerset House authorities. A slight discrepancy appeared between the two certificates, and counsel asked which certificate would be dealt with—that of Somerset House or that of the county analyst?—The Stipendiary said that of the county analyst would be recognised. He added that if there was any material difference they might adjourn the case.—Mr. Allen said he was quite willing to do that. The difference was between 0·6 and 0 8 per cent., the former being the county analyst's report and the latter that of the Somerset House authorities. This was a serious difference. The Stipendiary said he did not know that it would make much difference. It had been proved that there was boric acid in the ham, and the duty fell upon the defenee of proving that it was not injurious.

Mr. Abel Thomas in addressing the bench for the defence, said that saltpetre was to ham as foreign a substitute in every sense of the term as boracic acid. Boracic acid had only been used for the last eighteen or twenty years, whilst salt, sugar, and saltpetre had probably been used for many generations. But there was no such thing as ham in the sense that they could expect to find something without a foreign ingredient; there could be no ham without such ingredient, as there must be something in the nature of a preservative; of late years they had come to use boracic acid.

Boracic acid was a drug, and appeared in the British Pharmacopœia. But so did salt and saltpetre, and pepper and mustard, and tea and coffee. These were all drugs in the same way as boracic acid

Dr. Thomas Bond said he was a Fellow of the Royal College of Surgeons, and a Lecturer for Forensic Medicine, and Senior Surgeon at Westminster Hospital. He had for the last fifteen years used boracic acid largely both in surgical dressings and for internal purposes. Externally it was an extremely useful material for all surgical operations, and of course, when thus used, a great deal of it was absorbed by the system. In one extieme case he had kept a child alive in a solution of boric acid for a month. The child had a diseased bladder. He had used the boric acid internally, both for hospital and private practice, and he gave the ten-grain dose three times and sometimes four times a day. He had a patient who had been taking thirty grains a day for months. That gentleman said that he never felt better. He had never found any ill-effect, except in two cases where there was previous disease, although he had given boracic acid in hundreds and hundreds of cases. In many hams saltpetre was used, which was a much stronger drug than boracic acid; it acted more definitely on the system. He would rather go on continuously with ten grains of boracic acid than ten grains of nitrate of potash (saltpetre). He thought ham cured with boracic acid would be much more easily digested than strong salty hams. He did not think that ·6 per cent. of boracic acid in ham would be injurious.

Dr. Robert Bell, of Glasgow, Fellow of the Faculty of Physicians and Surgeons, &c., said that for the last seventeen years he had been in the habit of using boracic acid in milk, and also in ham and bacon. The average quantity he used in milk was never less than six grains per day; frequently ten grains in summer was consumed by individuals. He had not been able to find out that it had the slightest ill effect on the members of his family. They had been a remarkably healthy family. He had used boracic acid as a medicine very extensively. He generally gave ten grains three and sometimes four times a day. He would not hesitate to give it up to twenty grains if necessary. The Stipendiary: Would you give twenty grains three or four times a day?

I would give it without any fear of its doing any harm if the symptoms warranted my doing it, but, generally speaking, ten grains three times a day answers every purpose. He had gone on for months and months giving ten grains three times a day, and he had known instances where it had been kept up for years. He used the acid when fishing in the Western Hebrides. It was quite impossible for him to send salmon home unless the fish was wrapped with coverings saturated with boracic acid. He had done that frequently, and without the slightest ill effects. Once decomposition had commenced, boracic acid could not undo it. So there is no way in which you could conceal badly-preserved ham, for instance, or a badly-kept piece of pork, by using boracic acid on it after it has become affected or tainted? No, it is quite impossible. Is there any danger in the use of ham or bacon when it is cured by boracic acid? In my opinion there is not the slightest danger. In your opinion, would ·6 per cent. be in any way injurious to health? Not in the slightest degree.

Professor John Attfield, Fellow of the Royal Society, Doctor of Philosophy, for 34 years Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, and editor of the "British Pharmacopœia" for the General Medical Council, said he had been familiar with boracic acid in its uses and properties for more than forty years, and it was most certainly not injurious to health as a food preservative. He knew that by personal experience, for as a dyspeptic patient he had taken it for many months. He had taken it in doses of 15 grains three times daily, and he had experimented on himself by taking a much bigger dose—80 or 90 grains. He could not tell at all that he had taken it; the system got rid of it with extreme rapidity. It did not retard digestion in the slightest degree. He was well aware that boracic acid was used in a great many substances which were required to be kept for a long time, and, as far as he knew, it had not caused any injury to the system of the persons using it. In his opinion ·6 per cent. of boracic acid in ham could not hurt anybody.

Dr. Williams, medical officer of health for the county of Glamorgan, said the amount of boracic acid in ham put at ·8 would be 56 grains to the pound. He took it that a person in ordinary health would consume six ounces of ham at a meal, and that would be equivalent to 21 grains of boracic acid. Boracic acid was a drug that did not enter into the human constitution, and he maintained that it was a drug like all other drugs, and should only be given to the people who required it under medical advice. He had not prescribed boracic acid. It was a drug, and he maintained that it was wrong to give this quantity of 21 grains to persons without their knowledge when they were healthy.—You do not consider it a food, do you? No, no.—Do you consider boracic acid is part of the ham? I do not think it is.—Mr. Abel Thomas: That is for the justices to find out.—Witness said that he believed the effect of using boracic acid in this way with other doses was to produce skin eruption. He could not prove this. Cross-examined witness said he knew there was a small percentage of saltpetre in ham. He knew it was used in curing bacon, and he admitted that it was a foreign substance. His knowledge of boracic acid used internally was based on reading.

The Stipendiary, in reviewing the evidence, said in this case the summons was for selling an article to the prejudice of the purchaser—that was to say, selling ham which was not of the nature, substance, and quality of the article demanded by the inspector under the Act. He thought they might take it that when ham was demanded, boracic acid mixed with ham was not *prima facie* the article which was demanded. There was a good body of evidence which showed, he thought, that it was desirable to add boracic acid in order to make it an article of commerce, because there was a very considerable demand for this mild-cured ham; and that appeared to be the only practical way of producing the article which was in such request. Then the question arose whether in doing this the defendant had done something which was injurious. This case was very different from the case they had before (the boracic acid in butter prosecution—*C.T.J.* No. 559), for there was now a great body of evidence produced to the court to prove that the quantity of boracic acid used in this ham was not in excess of that which was generally used in the trade, and there was also a great body of evidence to prove that the quantity which was consumed even in the course of a day in taking, say, eight ounces of ham, was not in excess of that which a healthy individual might take. He believed there was abundant evidence adduced that day to prove that ·6 or ·8 per cent. would not be injurious. The Bench were jointly of that opinion. Three doctors and some practical ham curers had been called by the defence, and the effect of the evidence was that the quantity was well within the amount generally used, of which no complaint had ever been heard. The doctors were also called to prove not only their belief that the quantity was non-injurious, but they had themselves taken and administered it in very much larger quantities. They had been asked whether upon any occasion they had known it to have any injurious effects, and two practising doctors had admitted that this was so upon one or two occasions, particularly in the case of diseased bladder and disease of the kidneys, which had brought on skin eruption. That was about the whole of the injurious effects the Bench had before them that day. He (the Stipendiary) did not suppose that if ham prepared with boracic acid was really used as an article of commerce, and in 999 cases out of 1000 it did no harm, they would be justified in absolutely prohibiting it in consequence of its having, in two cases, produced mischief to the skin under the conditions described. That was the evidence before the Bench. There was no attempt to combat it, except by calling the medical officer of the county, who was undoubtedly a distinguished officer both in education and otherwise; but he told the Bench he was not in practice. He therefore dismissed the summons.

The Manchester Sewage Appeal Withdrawn.—Some weeks ago the Lancashire Stipendiary refused to grant the Manchester Corporation any further extension of time to enable them to deal with the purification of the sewage. The Corporation gave notice of appeal, but at a meeting of the Rivers Committee on Thursday it was decided to withdraw the appeal.

MERSEY AND IRWELL JOINT COMMITTEE.

A MEETING of this Committee was held on Monday, Sir J. T. Hibbert presiding.

A deputation attended from the Manchester Corporation in reference to the recent prosecution of the Corporation. The deputation consisted of Sir Bosdin Leech (chairman of the Rivers Committee), Dr. Dreyfus, Mr. H. Grimshaw, and Mr. W. H. Talbot (Town Clerk).

Before the deputation was admitted,

The Chairman said he presumed there would be no objection to hear what the Corporation had to say. The only point was that they must ask the deputation not to go into details with regard to the case, as the matter was still *sub judice*; the Corporation had lodged an appeal against the decision of the Stipendiary Magistrate, and it was not for the Committee to go behind the Court.

The deputation having entered, the Chairman said it was the view of the Committee that they could not go into details until they knew what position they were in with regard to the appeal. They would be glad to hear in a few words what the deputation had to say, particularly with regard to the appeal. He thought all the members of the Joint Committee felt it would be a very desirable thing, in the interests of the Corporation as well as the Joint Committee, that the appeal should be withdrawn.

Sir Bosdin Leech said the object of the interview was to inform the Joint Committee that the Corporation had instructed three experts to advise them, and that they had also applied to the Local Government Board, who were prepared, without any further formalities, and without requiring the deposit of plans, to hold a local inquiry before two of their inspectors (one from the engineering and the other from their medical department) as soon as the report of the experts had been received. Under the circumstances it was respectfully suggested that the appeal of the Corporation should be respited until the next sessions, in October, and that in the meantime no action should be taken in respect of the recovery of penalties. If this request were granted it would give the Corporation time to obtain the recommendations of the experts they had called in at the suggestion of the Stipendiary Magistrate. The experts were Mr. Baldwin Latham, Dr. Percy Frankland, and Professor Perkin, Owens College. They were to inquire into the scheme now before the Corporation, and if, for some reason, they found it unworkable, they were to suggest what it was best to do in the circumstances. He could assure the Joint Committee that the Corporation did not need to be driven; they were anxious to meet the views of the Joint Committee and to obtain the best possible scheme for the disposal of the sewage of the city. The Local Government Board had very kindly taken their position into consideration, and had expressed their willingness to assist them. The Local Government Board still insisted on the purchase of land, which was a great difficulty for the Corporation, but he thought that even there the Local Government Board were disposed to help them if the two experts they were sending down to hold the inquiry saw their way to make a recommendation in that direction. It was in these circumstances that the Corporation asked the Joint Committee to give them more time. The Joint Committee might very possibly say that this request had been made before, but he would like to point out that the present Rivers Committee of the Corporation was a new Committee, and should not have the sins of their forefathers visited upon them. They were in earnest, and determined that no time should be lost. If the three experts they had called in were able to agree, and the Local Government Board sanctioned the scheme, there was every desire on the part of the Rivers Committee to carry it out as speedily as possible. It was not a question of money; once they were assured they had a good scheme they would lose no time in getting it into operation. It might be said that, in the meantime, their effluent was getting worse, or at all events not improving. Well, they were doing what they could to improve the effluent. It had been found that the catch-pits were not satisfactory, and a sum of about £18,000. was now being spent in improving the arrangements for the mixing of the chemicals and the straining of the sewage. When this work was completed some improvement in the effluent would take place.

The Chairman asked what the Rivers Committee proposed to do during the time the experts and the Local Government Board were considering the scheme? What Sir Bosdin had last said seemed to show that the Corporation had some steps in view.

Sir Bosdin Leech said the works he referred to were already in progress, and within a very few weeks there would no doubt be an improvement in the effluent.

The Chairman pointed out that at present Manchester was almost at the bottom of the list in respect to the effluent it was turning out.

Sir Bosdin Leech thought this was probably due to the fact that during the last twelve or eighteen months a large number of works on the confines of the city—chemical works, dye works, and the like—had been sending their effluent untreated into the sewers instead of through settling tanks.

Dr. Hewitt said he would like to know definitely whether the Corporation intended to withdraw their appeal.

Sir Bosdin Leech said that was a legal question he was not prepared to answer. (See p. 394.)

Mr. V. K. Armitage asked whether, if the experts decided not to recommend the scheme before the Corporation, and insisted upon the purchase of land, the Corporation would agree to the requirements in this respect of the Local Government Board?

Sir Bosdin Leech said that was a matter the Corporation would have to deal with. It might be, if an unreasonable request was made by the Local Government Board, that the Corporation would be compelled to go to Parliament for independent powers. If they were asked to buy land which experience had shown would be throwing money away, he did not think the Corporation would be likely to consent.

Mr. H. Grimshaw said that whatever the Joint Committee did they could not make the Corporation move quicker than they were now moving; they could not move quicker than the circumstances would allow them.

The deputation retired while the Joint Committee discussed the matter.

Mr. T. W. Killick pointed out that it was ten years since Manchester put forward a scheme of land filtration at Davyhulme. In 1895 they consulted Sir Henry Roscoe about artificial filtration, and then they had a report from Sir Benjamin Baker in favour of a culvert. Now there was a new Committee and a new scheme, though what the scheme was the Joint Committee had not been told. Three experts had been called in; it would be some time before they agreed upon a scheme, and when they did so there would be a further period of delay while the Local Government Board reported upon it. One was sorry for Manchester, and for the whole watershed, that Manchester had not sooner grasped the situation. Other places in the watershed had had to grasp the situation and to take action. Was it fair, after the lapse of so many years, that they should still be asked to give Manchester time to consider? He was quite sure the Committee had no vindictive feeling against Manchester, and did not want unduly to press Manchester; but it would not be fair either to the Committee or the constituent authorities of the Committee to treat with Manchester till they withdrew their appeal. He therefore moved—"That the Joint Committee cannot enter into any discussion or negotiation with the Manchester Corporation till they withdraw their appeal against Mr. Yates's judgment.

Mr. V. K. Armitage seconded the motion. He said that all the facts which had just been put before the Committee had been threshed out before Mr. Yates, and it would be extremely disrespectful to Mr. Yates to deliberately set aside his judgment on a mere promise that something should be done at some future time. Mr. Yates had heard all that the Corporation had to say, and it did not satisfy him there was a case for giving further time. From the beginning of the Committee's work it had been their practice not to interfere when a matter had once been brought before the court. The prospect of progress held out by the deputation was not encouraging. It would no doubt take a long time for the experts to agree. Then their report was to be sent to the Local Government Board, and it might be a year before the Local Government Board sent down anybody to hold an inquiry, and perhaps another twelve months before the report was out. And then, after waiting all this time, the Corporation would probably not fall in with the wishes of the Local Government Board if they insisted on the purchase of a large quantity of land. In which case, as Sir Bosdin Leech had hinted, the Corporation would go to Parliament for another scheme, and another eighteen months or two years would be wasted. He was a little out of patience with all this; it was really too bad.

Mr. F. Barlow said they would not be doing their duty to the watershed as a whole if they did not treat Manchester as they had treated other places.

The resolution was carried *nem. con.*, Alderman Southern suggesting the use of that phrase rather than the word "unanimously."

The deputation entering again were informed of the decision of the Joint Committee.

Sir Bosdin Leech said he would have to consult his colleagues before he could reply. But he would like to know what the Joint Committee were prepared to do if the Corporation withdrew their appeal.

The Chairman said they could not make any bargain; but if the appeal was withdrawn the ground would be clear, and he felt sure the Joint Committee would be disposed to consider liberally the question between them and the Corporation. He did not think it would be fair to ask the Committee to commit themselves to anything more than that.

Sir Bosdin Leech said he had nothing very definite to take back to his colleagues.

The Chairman said he could not on the part of the Joint Committee make any bargain. But he could assure the deputation that they had no desire to harass or harry the Corporation. They acknowledged the great difficulties Manchester had to contend with; at the same time the Joint Committee had a duty to carry out, but in carrying out

that duty he hoped they would be disposed to take a liberal and even a favourable view of the position of Manchester.

Sir Bosdin Leech wished the matter could be put a little more definitely; the Corporation were asked to act simply on faith. He would put the matter before his Committee, and he would take it that if they consented to withdraw the appeal, the Joint Committee would take a lenient view of the matter, and that proceedings would not be hastily taken.

Mr. Killick said the deputation were to understand nothing except the terms of the resolution.

The Chairman said he must add something to that. The Joint Committee did not seek to take any advantage of the Corporation, and he hoped the deputation would have faith that they would be treated fairly and honourably.

The deputation then withdrew.

The Clerk (Mr. F. C. Hulton) said it had been arranged that the summonses for penalties against the Corporation, which were to have been heard on Wednesday, should be adjourned, pending the question of the appeal.

A letter was read from the Warrington Anglers' Association, thanking the Joint Committee for the efforts they were making to prevent the pollution of the streams.

PROSECUTION OF A MANURE MANUFACTURER.

At the Thames police-court recently, Thomas Spiers Price, 61, Hopton-road, Streatham, was summoned for establishing anew the business of a manure manufacturer, contrary to the statute.

Mr. George Hay Young, who prosecuted on behalf of the Poplar District Board of Works, said the summons was taken out under section 19 of the Public Health Act of 1891. The matter first came to the notice of Mr. Raymond, inspector of manufactories on the 3rd of May, in consequence of complaints. He visited Langbourne Wharf, West Ferry-road, Millwall, where he found the business of a manure manufacturer being carried on. The inspector saw a large pile of bones, giving off offensive vapours, sacks of dried bones - evidently imported into this country—sugar scum, sulphuric acid, and manufactured manures. There was also a mixing apparatus, and the smell was offensive. The question of nuisance or no nuisance did not arise, as the Act of Parliament said the business was an offensive one, and and had been absolutely prohibited. Inspector Raymond had known the premises for twenty-five years, and the business of a manure manufacturer had not been carried on there until it was established by the defendant last month. Although the works were registered under the Alkali Act, that certificate would not entitle the defendant to infringe the Public Health Act.

Mr. Raymond, in answer to Mr. Stryer, who defended, said he did not see any blood or fish on the premises. The premises were called "The Thames Chemical Works."

Mr. W. C. Young, public analyst, also said the premises were used for the manufacture of manures.

By Mr. Stryer: Superphosphate was used in the place of tartaric acid for making pastry.

Mr. Mead: I never knew there was such close affinity between pastry and manure (laughter).

Mr. Young, continuing, said the only animal substance he saw was dried bones.

Mr. Stryer: Do you know that is a distinguished guest on the P. and O. boats as cargo?

Mr. Young: I know it is not offensive.

For the defence, Mr. Stryer said the defendant had sunk a large amount of capital in the business. He should prove by expert evidence that the business of a manure manufacturer dealt with animal matter, and the proper description of Mr. Price's premises was "chemical manure manufacturer." It was for the manufacture of superphosphate. There were two distinct kinds of manure manufacturers, and the defendant's business dealt purely with the chemical kind.

Mr. A. E. Fletcher, F.I.C., late chief inspector under the Local Government Board, said that in his opinion the works were used for purely a chemical process.

Mr. F. N. Sutton, inspector under the Alkali Act, under the Local Government Board, said the works were exclusively for chemical treatment by means of sulphuric acid. The works were designed solely for the manufacture of chemical manure.—By Mr. Young: He did not trouble himself about the provisions of the Public Health Act.

Mr. Mead said the simple point he had to decide was whether the business carried on was within the meaning of the sub-section. The defendant advertised himself as the manufacturer of chemical manures, and he (the magistrate) must come to the conclusion that the defendant had established the business of a manure manufacturer. The defendant would be fined £1. and £3. costs.

Mr. Stryer asked the magistrate to grant a case, but that Mr. Mead refused to do.

Correspondence.

**** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

META-BISULPHITE OF POTASSIUM.

(To the Editor of the Chemical Trade Journal.)

Sir,—Our attention has been drawn to a paragraph in a recent issue of your journal in which it is stated that a German firm of brokers in London can supply metasulphite of potassium which they state is sometimes difficult to obtain.

We desire to point out that it is now many years since we introduced meta-bisulphite of potassium to the photographic trade and for other purposes, and that we manufacture it by the ton; further, that it is to be had from us in any quantity. Therefore, there is no necessity for buyers to seeks these goods in Germany.—Yours etc,

A. Boake, Roberts & Co., Ltd.

BORACIC ACID PRESERVATIVE.

(To the Editor of the Chemical Trade Journal.)

Sir,—My attention has been called to the able leader in your issue of the 4th inst., in which you make a very kind reference to the pamphlet on "Borax Food Preservatives," recently sent you. Since this was issued, an important test case has been decided at the Pontypridd Police Court, Glamorganshire, on June 1st, the report of which—taken from last week's *Grocer*—I enclose. This case, you will notice, refers to American ham, the analysis of which, according to the prosecution's original statement, revealed the presence of 6 per cent. of of boracic acid, although on reference to Somerset House 8 per cent. was returned, and the case was fought out on its merits according to these figures. As you will see by the report I enclose, the evidence for the defence included such well-known experts as Dr. Thomas Bond, M.D., F.R.C.S., senior surgeon at Westminster Hospital, Dr. Robert Bell, M.D., F.R.P.S., of Glasgow, and Prof. Attfield, the editor of the *British Pharmacopœia*, together with practical experts in the curing of provisions, all of whom attested the absolute innocuousness of boracic acid used in the proportions mentioned. This may, I venture to suggest, be taken as an answer to your query, "What is a moderate quantity of such a preservative to be used?" The magistrate who heard the case was the same one who heard the butter case in January last, and he stated that had the evidence in January been as clear as the evidence in June, the result in the January case might have been different. He stated that the evidence before him had proved that 42 to 56 grains of boracic acid per lb. would not be injurious and dismissed the case with costs against the County Council. You will notice that Dr. Bell, in his evidence, said that for seventeen years he had known a family taking milk containing ten or more grains of boracic acid, which milk was consumed without the slightest ill-effects being displayed in the case of this family, and that he would not hesitate to give up to 60 grains a day if necessary. I respectfully suggest that this is very strong evidence in favour of this preservative, and is an answer to your query about quantities. Broadly speaking, the answer may be said to be that whatever was sufficient to preserve the article of food in which the boracic acid was used would prove innocuous. Thanking you in anticipation for the insertion of this letter, as also for your kind article.—Yours etc.,

Arthur J. Giles.

Sec. Federation Grocers' Associations, London, June 7th, 1898.

The Antipyrin Patent.—In reference to antipyrin it is stated that the German patent of Meister, Lucius and Bruning will not expire until July of this year, when the directors will have to consider the advisability of meeting the prices which obtain in countries where no patents exist, and they reckon upon a diminution of income from this item. The production of diptheria-serum and Koch's tuberculin are progressing well, and so is the use of *nitragin*, the new fertilizer. The directors mention that they have set aside an extra grant, 80,000m., for experiments with dyeing materials.

The Resin Market.—Shippers have persistently declined to offer any cargo during the past three or four weeks, in consequence of their being unable to charter vessels. There is a good demand on this side of the Atlantic, which at present remains unfulfilled. Common resin is firm in price at Wilmington, but stocks are accumulating slightly. In Savannah and other ports, however, the stocks are said to be 40,000 barrels below last year's figures. The London market has been slightly easier as compared with last month, partly owing to fresh arrivals. There has been further business in new crop "pales" and large orders for "mediums" and "common strained" have been placed. The noteworthy feature in the Liverpool market has been the scarcity of supplies. There is said to be scarcely any resin on the way to be had. Prices have remained steady.

Selected Correspondence.

BRYANT & MAY AND NECROSIS.

(*To the Editor of the Manchester Guardian.*)

—In venturing to address you on this subject we are only s to correct some misstatements, and we do not complain for a it of the censure which has been passed upon us in respect of the we have committed against one of the provisions of the Factory We are, however, entitled to take exception to the deductions from the fact that we have offended as stated. The Home Office ors have already said that we have more than fully met every equirement of the Factory Acts and special rules, and it must be s to all who care to give the matter careful thought that from oint of view we are surely the most interested in the prevention sphorus necrosis, and we claim to have done everything in that n which our knowledge and experience has suggested, as well ything which has been suggested to us from outside; while as those of our workpeople who have been attacked by phosphorus s we would prefer that others say what we have done for them; view of what has been written it is right that we should that everything mortals can do for the sufferers has lone, and with the very greatest success. Our doctor has so y treated the 47 cases which have occurred in these works during t twenty years that 81 per cent. of those attacked have been tely cured, and many of those cured are still in our employ, g the best of health. The statement on our special safety boxes and packets that "these matches are not poisonous and rmless to those employed in their manufacture" has been ged, but the statements are perfectly true. These special safety s, which we were the first to introduce, and which we have y many years invited consumers all over the world to use, are y free from yellow phosphorus, and are consequently not ous, but quite harmless to those who make them. There is, er, as is well known, a large demand for matches which may be upon any roughened surface, and such matches cannot be made t the poisonous yellow phoshporus Many of the foremost ts in Europe have tried for years to make a match which shall the demand without yellow phosphorus, but they have failed, and s is at present known yellow phosphorus is absolutely necessary manufacture of "strike anywhere" matches. It has also been that we use yellow phosphorus because it is cheaper and in order e make larger profits. The statement is absurd, because not e cost but the selling prices of the phosphorus matches are and lways been lower than those of the special safety matches.—&c.

GILBERT BARTHOLOMEW, Managing Director.

field Works, Bow, London, E., 7th June. 1898.

A NEW GAS—CRYPTON.

FORE the Academy of Sciences, on Monday, M. Berthelot read a letter from Professor Ramsay, the co-discoverer with Lord gh of Argon, giving the first announcement of another discovery same nature. This new gas he proposes to call Crypton. The ery was effected, like that of Argon, by the aid of the spectro- The presence of Crypton was detected by the existence in the m of a green line, which M. Berthelot saw on Monday in a tube containing the two-millionth of a pound which Professor y had sent with his letter. According to the description for- to M. Berthelot, Crypton belongs, not to the Argon, but to the n family, and its density is somewhat greater than that of oxygen. ears to be a simple body and monatomic. For these details M. lot offers the guarantee of the well-known ability of the dis- r. Professor Ramsay states that he will collect a larger quantity pton for further researches, of the results of which he will give ademy the first information. M. Berthelot called attention to mpliment paid to the Academy by so many Englishmen of in saluting it as the medium of publicity for their discoveries. e said, was an answer to the intrigues of obscure personages ried to create a chasm between the two leading pioneers of n science and civilisation. The effect remained to be seen on e and biology of the acknowledged presence of so many sub- s in that atmospheric gas which we inhaled from our first to our eath.

HONOUR TO BUNSEN.—The Society of Arts Albert Medal for the t year has been awarded, with the approval of the Prince of the president of the Society, to Professor Robert Bunsen, of lberg, "in recognition of his numerous and most valuable appli- of chemistry and physics to the arts and to manufactures."

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

THE eighth and last meeting of the session of the Nottingham section of the Society of Chemical Industry was held on May 25th, at the Nottingham University College, Mr. J. O'Sullivan in the chair, when three papers on matters of public and scientific interest were read and discussed. The first of these was by Mr. Samuel Trotman, the Nottingham Borough Analyst, on the subject of "Milk Analysis." In the course of his introductory remarks, Mr. Trotman said that although the work of an analyst did not often lead to important scientific results, still it frequently happened that the accumulation of small facts provided matter of general interest, and acting in accordance with this belief it was his intention to lay before the meeting a few statistics in reference to the milk supply of the city of Nottingham. These, if not particularly striking from a scientific point of view, needed no apology when regarded from the standpoint of public health and economy. There were few natural foods more necessary than milk, and yet, strangely enough, there was none so readily taken without proper inquiry into its source of origin and conditions of production. After alluding to the general belief that the constituents of milk were subject to considerable variation, whereas they were in point of fact remarkably constant and uniform, the lecturer gave some statistics in support of his contention. During 1895, for instance, Mr. H. D. Richmond, of the Aylesbury Dairy Company, had analysed some 24,662 samples, with the average result of a percentage of 3·84 of fatty substance, and 8·82 solids not fat, while in no case did the percentage of fats fall below 3 per cent. Similar analyses of large numbers of samples in succeeding years gave almost identical results. From this it might reasonably be concluded that, without inflicting any hardship upon the producer one might expect to find the milk supplied for the daily use of the public not much below the standard quoted. In Nottingham, however, this standard was far from being attained. During the past eighteen months the speaker had examined 180 samples of milk, with the following average result:—Fat, 3 per cent.; solids not fat, 8·5 per cent. Of these samples only thirty five, or 19 per cent., reached the average of the samples analysed by Mr. Richmond. In nearly every case, too, the samples were mixed, and not the produce of any individual cow, so that the conditions were identical in both cases. Of the remaining 145 (adopting as a standard of purity 3 per cent. of fat and 8·5 per cent. solids not fat), 62 were deficient in fat and 73 contained added water, representing altogether 96 undoubtedly adulterated samples. This was noteworthy in view of the fact that, according to Mr. Richmond, it was exceedingly rare to find a genuine milk in which the fat fell below 3 per cent., while the same gentleman gave it as his opinion that the solids, not fat, below 8·5 was only 2·19 per cent. of the samples analysed. The difficulty analysts had to contend with was the absence of a legal definition of the composition of milk. The facts he had adduced proved that it would not be difficult at the present time to fix a standard which would protect the consumer without inflicting any hardship or injustice upon the producer. In answer to the objection that individual cows sometimes give very poor milk, he maintained that such a state of things was invariably due either to bad feeding or to debility in the animal. If the former were the case the remedy was obvious; if the latter, the cow should be condemned for milking purposes. Of the 180 samples he had analysed, and which had been offered for sale in Nottingham, no less than 62 were deficient in fat to the extent of at least 32 per cent, while 73 contained added water; yet in very few cases were the authorities able to prosecute with the certainty of obtaining a conviction. As things stood at present, even in cases where there was the strongest evidence of adulteration, the milk had still to be passed as pure. Thirty per cent. of fat might be abstracted and 10 per cent. and often 20 per cent. of water added with impunity. Passing to another aspect of the question, Mr. Trotman said he had recently examined over fifty samples of Nottingham milk under the microscope, and in almost every case there was a deposit of a blackish colour. This was directly due to the presence of cow dung, and every specimen contained hairs, ranging from minute ones, apparently from the cow's udder, to the long capillary appendages of the dairymaid's head. Other foreign bodies included fungi and fragments of vegetable debris. Bacteriological investigation led to equally significant results. The experience of Nottingham milk, he added, was only on a par with that of other large towns. Evidence of a similar nature to that embodied in this paper was coming in from every side, and yet little or nothing was being done in the way of reform. It was his opinion that in a city of the size of Nottingham the sterilisation and distribution of milk ought to be in the hands of the public authorities, who would thus become guarantors to consumers of the quality and sanitary condition of the milk supplied. This was already the case in many towns on the Continent, and would not necessitate the raising of the price of milk, while it would abolish the necessity for the delivery twice per day. The whole question was one which should be regarded rather from the welfare

of the many than the feelings of the few.—A discussion followed, after which Mr. J. O'Sullivan read a paper on the subject of "The Rate of Alcoholic Fermentation," which was an account of a considerable series of experiments made to elucidate points that have been investigated by Dumas and by Adrian Brown, who used varied strengths of dextrose and an excess of yeast in their experiments. The apparatus employed by the author ensured a constant temperature of 22°, the variations never exceeding a quarter of a degree. The bath was fitted with stirring gear, so that the yeast could be kept in suspension in the solution undergoing fermentation. The experiments described led to a number of interesting conclusions, amongst which may be mentioned: that agitation accelerates fermentation whether it is carried on with or without an excess of yeast; that the rate of fermentation of maltose and dextrose is practically proportionate to the quantity present, approximately equal quantities being fermented in equal times; and that maltose ferments at a slightly lower rate than dextrose.

A third paper was read by Dr. William Frew, of Glasgow, on "The Causes of 'Stench' in Beers." The author explained that this was a preliminary note prepared to bring before brewers, a particular form of wild yeast which he had succeeded in isolating, but regarding which he hoped to be able to say more towards the end of the year. Dr. Frew had found that the peculiar odour of beers attacked by the disease known as "Burton stench" was not due to sulphuretted hydrogen as was generally supposed, for it was not even due to a sulphur compound, but was probably caused by the presence of certain fatty acids or higher alcohols produced by the presence and growth of one or more varieties of small wild yeasts, one of which he had isolated in a state of purity, and which the author proposed to call Saccharomyas Foetidus. The meeting then terminated.

Trade Notes.

Obituary.—We regret to record the death of Lord Playfair at the age of 79. His position in the scientific world was unique in many ways, sanitation having always been a subject in which he was keenly interested, and on which he was an accepted authority as early as 1843. We need hardly add that the complimentary dinner to past presidents of the Chemical Society, which was to have taken place this week (chiefly in honour of Lord Playfair himself), has been postponed.

The Sugar Conference.—The hopes the German sugar-makers built on the Brussels Conference have been greatly diminished by the last foreign move. The Freneh are resisting the abolition of secret bounties, while the Austrians and Hungarians say they cannot renounce preference bounties owing to German competition. Many Germans also oppose the abolition of the bounties as certain to render the competition of cane sugar more formidable. Others deny this, on the ground that the beet sugar bounties are counterbalanced by the American extra duties on beet sugar and by the strong support Great Britain has recently given the West Indian planters. If, moreover, one remembers her threat to levy extra duties on sugar imported from countries that do not abolish the bounties, one cannot but see that her attitude at the Conference will be decisive.

Testing Filter Presses.—Mr. C. Harzer, of 79½, Gracechurch Street, London, the well-known agent for Dehne's filter presses, pumps, and fittings, announces that, owing to the largely increasing demand for these filter presses, and the desire among intending users to have a practical experiment made with the material to be treated before deciding to adopt these machines in their works, he has made arrangements to use the laboratory and testing works at 91, Blackfriars Road, London S.E., which will be under the direct supervision of two chemical and engineering experts, Dr. Steinhart and Mr. J. L. F. Vogel. In this way he hopes to save clients the trouble, expense, and delay occasioned by carrying out experiments at their own works, or the necessity of sending samples over to the works at Halle, @/S. He also states that after this date, Mr. T. H. Lait (who has been with him since the commencement of this firm) will sign, in conjunction with Dr. O. J. Steinhart "per procuration" on his behalf.

The Petroleum Committee—More Delays.—Before the Whitsun recess it was arranged that the Petroleum Committee should meet on Friday, 10th inst., to consider their report. Owing to an unlooked-for delay in the revision of the draft which has been prepared by the chairman (Mr. Collings), a postponement has been found necessary, and notices have been issued altering the date of reassembling from the 10th to the 17th inst. It is understood that the recommendations which the chairman will invite the Committee to endorse are based upon the theory formulated by the late Sir V. Majendie that, bearing in mind the injurious effect which the raising of the flash-point would have upon trades employing petroleum for purposes other than illumination, the best method of remedying existing evils will be to prohibit the use of unsafe lamps. Mr. Ure, the Radical member for Linlithgow, has drawn up an alternative report recommending the raising of the flash-point from 73° to 100° Fahr.; and the test division will therefore take place upon the question whether Mr. Colling's draft or that submitted by Mr. Ure be taken as the basis for discussion, or—to employ Parliamentary phraseology—"be read a second time paragraph by paragraph."

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols are very flat, having dropped again to 11½d. for 90's, and 1s. for 50/90's. Carbolic acids are quiet, but the improved weather promises better prices. Napthas steady; crude dearer. Anthracene receives little or no attention from buyers and is dull. Pitch weak. Brighter things are prophesied for next season, but the prophecy seems wholly based on the wish which is the forbear of the thought.

Sulphate of ammonia is not in a very encouraging position. The holidays seem to have upset the market and left things more or less depressed. Closing prompt values are:—Beckton, nominal; London outside makes, £9. 5s.; Liverpool, £9. 5s; Hull, £9. 2s. 6d., and Leith, £9. 2s 6d. to £9. 3s. 9d.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business has been rather quiet owing to holidays, and prices all round are without alteration. For bleaching powder, hardwood casks, quotations rule from £5. 15s. to £6. f.o.b. Liverpool, and £5. 2s. 6d. per ton for softwoods, f.o r. makers' works. Ammonia alkali, 58%, in bags, £4. 2s. 6d. per ton, f.o.r. Caustic Soda is in fair request, and current quotations f.o.b. Liverpool are as follows: 77%, £8. 5s.; 74%, £8; 70%, £7. 2s. 6d; 60%, £6. 2s. 6d. nett, 10 ton lots. Chlorates are still depressed at 3¼d. and 3¾d. per lb. respectively for Potash and Soda. Recovered sulphur firm at £4. 13s. 9d. to £4. 15s. per ton, f o.r. Saltcake is in good demand at 25s. per ton, bulk, f.o.r. Business in sulphate of copper is quiet, and quotations rule from £16. to £16. 5s. per ton, f.o.b. Acetates of lime are unchanged. brown, £5. 12s. 6d. c.i.f.; grey, £7. 10s. per ton. Other acetates and acetic acid are also without alteration in value. There is little or no inquiry for white powdered arsenic, and price is nominally £17. 10s. per ton f o.r. Garston. Caustic and carbonate of potash continue in good request, and prices are firm. Prussiate of potash is rather firmer at 6½d. per lb. Cyanide, 1s. 3d. per lb. Nitrate of soda 7s. 6d. to 7s. 9d. per cwt. Sulphocyanides dull. Oxalic acid 3⅜d. per lb.

REPORT ON MANURE MATERIAL.

Business has been rather of a holiday character during the past fortnight, and there is therefore not much to report.

Quotations for mineral phosphate are unchanged, and business is reported for the Continent at full prices. For U.K. inquiry is mostly for retail parcels, the larger manufacturers having covered their requirements for next season.

There is nothing to report in River Plate bones; buyers not seeing their way to paying the price asked for Summer-Autumn shipment. A considerable quantity of East India bone meal has been sold at £4. 10s. per ton, ex-store Liverpool, and £4. 12s. 6d. per ton is now asked. For shipment the quotation is £4. 15s. per ton, but no business is reported at the price.

Nitrate of soda is firm, and 7s. 7½d. per cwt is required for fine quality on spot.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron steady: Scotch warrants closed at 46s. 0½d.; Middlesbro', 40s. 0d cash; and hematite, 50s. 5½d. Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at £51. 0s. 0d. to £51. 5s. 0d. cash, and £51. 5s. 0d. to £51. 10s. 0d. three months. Tin steady: Straits closed at £68. 2s. 6d. to £68. 12s. 6d. cash, and £68. 12s. 6d. to £69. 2s. 6d. three months; English ingots, £70. 15s. 0d. to £71. 0s. 0d. Lead steady: Spanish, £13. 12s. 6d. to £13. 13s 9d.; English, £13. 17s 6d.; Silesian spelter, ordinary, £19. 7s. 6d. to £19. 8s. 9d. Nickel, 1s. 2½d. Antimony, £36 10s. 0d. to £37 0s. 0d. Quicksilver: First hands, £7. 12s. 6d.; second hands, £7. 12s 0d. *Copper shares* quiet: Cape, 4⅝ to 4¾; Copiapo, 2 1/16 to 2 3/16; Libiola, 2 to 2¼; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, 26 to 26⅛; Tharsis, 6 to 6¼.

GLASGOW, Wednesday.—Market flat, with a fair business. Scotch done at 46s. 1d. and 46s. 0½d. cash; also at 46s. 3d. month; buyers, 46s. 0½d. cash; sellers, 46s. 1d. Cleveland, done at 40s. 1d. and 40s. 0½d. cash; buyers, 40s. 0d. cash; sellers, 40s. 0½d.

erland hematite done at 50s. 6d. cash; also at 50s. 9d. month; , 50s. 5½d. cash; sellers, 50s. 6d. Middlesbrough hematite, , 50s. 9d. cash; sellers, 51s.

LIVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

S.—Palm oil is depressed, buyers being very indifferent. There transactions of importance to report. Olive is quiet at £29. to per tun for Spanish, according to quality. Linseed is firm, with pool makes at 18s. 3d. to 18s. 9d. cwt. in export casks Cotton-noves but slowly, the quotation for Liverpool refined being 16s. 9d. 3d. cwt. There is only a moderate inquiry for castor oil, but arket is firm on the spot for good seconds Calcutta at 3¼d. to and first pressure French, 3¼d. per lb. Tallow keeps steady, e demand is light. Prices are inclined to be lower. Resin is g fairly well on spot at last quotations. There is a fair business on spot in spirits of turpentine at 25s. 6d. cwt. Petroleum is at 5d. for Russian refined and American 5⅞d. to 7¼d per gallon.

KES.—American Western linseed on the spot continues to favour s at £6. 5s. to £6. 10s, whilst Liverpool makes remain without ial change at £7. 15s. to £8. 10s. though some holders are willing ept easier rates. American decorticated cottonseed are steady 5. 12s. 6d. to £6. 2s. 6d, but there is only a limited inquiry t. Liverpool makes are offering at £6. 5s. to £7. per ton, with ll demand thereat. There is a shade more doing in Liverpool orticated makes at £4. 5s. to £5., whilst Egyptian continue to a very quiet market. Spot parcels only meet with a limited y, though offered at £3 17s. 6d. to £4. per ton.

LOURS.—Prices are steady, and practically without change. s: Oxfordshire—common £10., medium £12, best £15.; rshire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., ds, 50s., and common, 18s.; Devonshire, 40s. to 45s.; h, J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red unchanged. Venetian red: £6. to £10. Cobalt: Prepared , 9s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; um, £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

HULL PAINT, OIL, AND COLOUR REPORT.

TUESDAY.

ILS.—The price of linseed oil in all positions continues an oving one as against refined cotton oil, which does not maintain dvance; not so long ago the prices of each were the same, now a ence of £2. per ton separates them. The stocks of seed in Hull, h ending May as against April the 30th, were—linseed, 2,809 against 1,732 qrs.; rapeseed, 90 qrs., against 1,093 qrs.; cotton-1,475 tons, against 1,613 tons; whilst the monthly imports have —linseed, 25,766 qrs, against 16,781 qrs.; rapeseed, 6,592 qrs, st 2,301 qrs.; cottonseed, 8,375 tons, against 17,127 tons, making for the year as against last year during same period—linseed, 20 qrs, against 275,563 qrs.; rapeseed, 32,217 qrs., against 7 qrs.; cottonseed, 105,789 tons, against 100,964 tons. Linseed quoted to-day, and steady thereat, 16s. 3d. to 16s. 4½d. per cwt., l, spot delivery; June/Aug., 16s. 4½d. and 16s., last four months. d and refined £1. to £1. 10s. per ton extra; some boilers quote same figures for boiled oil as raw, but how this is done is better rstood than explained. Refined cotton oil quieter: spot, naked, 4½d., sellers, forward; June/August, 14s. 7½d., and 13s. 6d. to 7½d. Nov./April. Ordinary casks £1. per ton extra; barrels 0s. Castor oil extracted here and of fine quality—firsts, 30s. per in barrels; in cases 3 5/16d. per lb.; seconds, 29s. per cwt., in ls; in cases 3¼d. per lb. Tallow is quoted from 23s. per cwt. unchanged from 5s., spot. Olive oils from £31. to £33. per ton. soaps unchanged.

KES.—Linseed cakes dull, 95% pure, £7. 17s. 6d. to £8. Oil- (linseed), £6. 15s. to £6. 17s. 6d., Russians, £7. 7s. 6d. to 10s. Cotton cakes quiet, but steady, best makes, £4. 7s. 6d.; ds, £4. 5s. Decorticated, £6. 2s. 6d. to £6. 5s. Rape cakes ered.

INTS.—Makers continue very actively employed, with change ices. Mineral colours from £3. 15s. to £8. per ton. Ordinary rs in oil from £10. per ton. Ready mixed from £24. Black sh, £5 per ton, in barrels. Disinfecting powder, 5% carbolic, 10%, £3. 10s; 15%, £4. per ton. Sanitary fluid, 10d. per n. Pinolia sanitary fluid, 2s. 6d. per gallon. Sanitary chloride ne, 15% chlorine, £5. 10s.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

e lowering tendency detected in sulphate of ammonia at this time veek, later on became fully more confessed, and the figure for pt Leith now cannot be put at higher than £9. 5s., with little or no call for it on the part of buyers. The latter apparently regard the waiting policy, as for the present, the most advisable. There is no talk of anything on the forward delivery account. Another article on the undeniable down-grade is sulphate of copper, which is now under £16. —said to be obtainable from some sellers at £15. 15s., but that is doubtful. Certain it is that orders have become much scarcer. Saltcake is in demand, and has gone up to 25s. The other ordinary chemicals are generally steady at the recent moderate current of business, and prices about the same. Mineral oils and solid paraffins remain firm at the old quotations, being slightly favoured by the continuance of the Cuban war.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 12s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to £5. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. od. nett, Tyne; saltcake, 25s od. borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7., nett, Liverpool; bichromate of potash, 3¼d., nett for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. nett, for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 5s. od. prompt, f.o.b. Leith; salammoniac, first and second white, £35. and £33. nett, any port; sulphate of copper, £15. 15s. to £16. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 1,500 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

There is no change to report in the market, and business is only slow. Soda crystals are steady, £2. 12s. 6d. per ton, gross weight, locally. Caustic, 70% £7. 5s. to £7. 10s. per ton, and 76/77% £8. 5s. to £8. 10s. per ton. Sulphur scarce at £4. 15s. to £5. per ton.

Bleaching powder, softs, £5. 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 0s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 5% f.o.b. Liverpool; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is steady at 9s. to 9s. 6d. per ton, f.o.b. Tees.

COALS.—A full demand continues for coals, particularly for steam and bunker. Coke is also in excellent request for home and export. Prices to-day:—Best Northumbrian steam, 13s. to 13s. 6d. per ton; second qualities, 12s. to 12s. 6d. per ton; small steam, 4s. 9d. to 5s. per ton; bunker coals, 9s. to 10s. per ton; household coals, 10s. to 11s.; coke, from 18s. 6d. to 21s. per ton.

New Companies.

Glenreeve & Co., Ltd.—CAPITAL £5,000. in £1. shares. This company has been formed to acquire British Patent No. 6,640, relating to improvements in night-lights, and to carry on the business of night-light manufacturers, wholesale, retail, and manufacturing chemists, candle makers and soap manufacturers. The number of directors is not to be less than 2 nor more than 7; the first are W. Stewart and J. Glenister. Qualification £100.; remuneration £100. per annum divisible. Registered office, 19a, Gurley-street, Bromley-by-Bow, E.

British Alcolite, Ltd.—CAPITAL £50,000. in £1. shares. This company has been formed to acquire the patents and business of the Alcolite Syndicate, Ltd., and to adopt an agreement with D. C.

Davies, and to carry on the business of aluminium manufacturers and merchants, cycle and cycle fitting manufacturers, carriage and motor car builders, machinists, engineers, smiths, founders, tube makers, etc. The subscribers to the memorandum of association are:—F. W. Hatton, 49, Oxford-street, Old Trafford, Manchester, correspondent; A. Manning, Newport, Salop, accountant; R. H. Harvey, 100, Boston-street, Manchester, correspondent; G. H. Lightollers, 21, Davenport Avenue, Withington, clerk; C. E. Craig, 20, Heywood-street, Moss Side, Manchester, bookkeeper; S. E. Worsley, 20, Hadfield-street, Newton Heath, cashier; J. D. Haddock, 88, Broughton-lane, Manchester, secretary.

George Muscott & Son, Ltd.—Capital £50,000. in £1. shares. (25,000 5% cum. pref.). This company has been formed to acquire the business carried on as George Muscott & Son, at the Yardley Tannery, Acock's Green, near Birmingham, and to carry on the business of tanners, curriers, leather merchants, boot and shoe manufacturers, farmers, timber merchants, and dealers in bark, hides, gelatine, hair, etc. The subscribers to the memorandum of association are:—G. Muscott, Amington, Acock's Green, near Birmingham, tanner; H. Muscott, Claremont, Yardley, Birmingham, tanner; C. G. Beale, 3, Newhall-street, Birmingham, solicitor; A. T. Powell, 15, Newhall-street, Birmingham, chartered accountant; E. P. Beale, 3, Newhall-street, Birmingham, solicitor; A. Pullin, 10, Wyndham-road, Edgbaston, clerk; O. F. Twiss, 325, Rotton Park-road, Birmingham, clerk.

Precious Metals Extraction Co., Ltd.—Capital £5,200. in £1. shares. This company has been formed to acquire, own, and work Dr. J. J. Hood's patents and processes for improvements in extracting metals.

Sheffield Chemical Co., Ltd.—Capital £10,000. in £1. shares. This company has been formed to acquire the business carried on by H. Ellison, at Sheffield and Rotherham, Yorks, to adopt a certain agreement, and to carry on the business of chemical manufacturers and merchants, tar distillers, etc. The subscribers to the memorandum of association are:—A. Houghton, 9, King's Mill Lane, Huddersfield, gentleman; J. Magee, 7, New-street, Huddersfield, accountant; T. Needham, The Laurels, Huddersfield, manufacturing chemist; T. H. Oldfield, Melbourne Cottage, Dalton, Huddersfield, accountant; T. P. Hooton, 689, Abbeydale-road, Sheffield, manufacturing chemist; Mrs. M. A. Hooton, 689, Abbeydale-road, Sheffield; J. B. Thomson, 219, Greenhead-street, Glasgow, manufacturing chemist. Registered office, Attercliffe, Sheffield.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending May 28th.

Acetic Acid—
Germany, 10 pks. F. Boehm
" 14 Phillipps & Graves
Holland, 103 A. & M. Zimmermann

Acids—
Holland, 49 pks. Little & Johnston

Alkali—
France, 108 c. P. Hecker & Co.
Belgium, 1,640 R. Waters
" 100 F. Smith
France, 160 J. Barber & Co.

Ammonia—
Holland, £75 H. Lorenz

Ammonium Nitrate—
Germany, £40 Petri Brs.

Alumina Sulphate—
Germany, 77 pks. H. Wallace & Co.

Arsenic—
France, 40 pks. Petri Brs.

Asbestos—
Germany, £35 Craven & Co.
Canada, 80 W. Byford
U. States, 80 "
Holland, 20 T. H. Lee

Barytes—
Germany, 49 pks. J. L. Lyon & Co.
" 101 W. Harrison & Co.
Belgium, 332 "
" 386 J. L. Lyon & Co.
" 36 O'Hara & Hoar
Germany, 39 J. R. Francis & Co.
" 200 Burrell & Co.

Bleaching Powder—
Holland, £52 J. M. Steel & Co.
France, 112 pks. "

Bones—
N. Zealand, 2 t. Culverwell, Brooks & Co.
Queensland, 11 Dalgety & Co., Ld.

Bone Meal—
E. Indies, 483 t. A. Hunter & Co.

Bromine—
Germany, 20 pks. A. & M. Zimmermann

Caoutchouc—
Straits, 105 c. Prop. Bull Wf.
Columbia, 5 L. & I. D. Jt. Co.
Germany, 5 Major & Field
Straits, 163 E. Boustead & Co.
" 102 Huttenbach & Co.
Sydney, 7 Lewis & Peat
Zanzibar, 25 L. & I. D. Jt. Co.
" 4 Clarke & Smith
E. Indies, 13 Stewart, Holl & Co.
Straits, 150 Butler's Wf., Ld.
Thursday Is., 5 McIlwraith, McEacharn & Co.
" 4 H. Devitt & Co.
France, 3 Procter Brs.
" 24 H. Johnson & Sons
Straits, 62 L. & I. D. Jt. Co.
Africa, 9 "
" 10 Brookes & Green
B. W. I., 2 New Col. Co., Ld.

Carbolic Acid—
Germany, 77 pks. J. G. Back

Caustic Potash—
Belgium, 80 c. A. J. Luke & Co.
France, 20 pks. Petri Brs.
Germany, 20 D. T. Domeier & Co.,

Chemicals (*otherwise undescribed*)
Germany, £245 L. & I. D. Jt. Co.
" 1,448 A. & M. Zimmermann
Holland, 37 T. H. Lee
Belgium, 27 John Cockerill Line
Germany, 228 Butler's Wf., Ld.
Belgium, 10 Leach & Co.
Canada, 15 Allen Brs. & Co.
Denmark, 81 Crosse & Blackwell
France, 58 Mory & Co.
Germany, 10 Standard Ammonia Co.
" 5 H. Lambert
Holland, 28 Typke & King
" 8 A. & M. Zimmermann
Belgium, 10 T. Palmer
" 25 J. Harrison
Germany, 30 Phillipps & Graves
" 14 Blondeau & Co.

Chloride of Lime—
France, 96 pks. W. E. Cole

Cream of Tartar—
France, 35 pks. W. C. Bacon & Co.
" 19 B. & F. Wf. Co.
" 3 H. Johnson & Sons
" 2 J. W. Cook & Co., Ld.
" 10 C. F. Gerhardt

Creosote—
Belgium, £35 J. Harrison
France, 25 E. J. Catlin

Dyestuffs—
Aniline
Holland, 1 pk. T. H. Lee
Germany, 10 Butler's Wf., Ld.
Annatto
U. States, 2 pks. Pitt & Scott
E. Indies, 10 G. & H. Green
Argols
Italy, 82 pks. Thames S. T. & L. Co.
" 1,453 B. Jacob & Sons
Cochineal
Canaries, 30 pks. W. M. Smith & Sons
" 35 J. W. Cook & Co., Ld.
Cutch
Straits, 200 pks. Hoare, Wilson & Co.
Divi Divi
E. Indies, 85 pks. R. G. Hall & Co.
Extracts
France, 60 pks. B. & F. Wf. Co.
Belgium, 15 Leach & Co.
Austria, 80 Boutcher, Mortimore & Co.
Canada, 385 "
U. States, 24 R. Warner & Co.
France, 15 Bennett S. S. Co.
Gambier
Straits, 493 pks. J. Greig
" 90 Beresford & Co.
Manila, 243 Elkan & Co.
Straits, 252 C. S. Lovell
" 1,683 E. Boustead & Co.
" 505 Brown & Elmslie

Indigo
Belgium, 1 cs. John Cockerill Line
Madras, 117 chts. L. & I. D. Jt. Co.
" 9 R. Von Glehn & Sons
" 73 P. Macfadyen & Co.
Bengal, 15 L. & I. D. Jt. Co.
Myrabolams
E. Indies, 803 pks. Dalton & Young
" 1,792 Baxter & Hoare
" 600 E. J. Winser & Co.
" 2,457 L. & I. D. Jt. Co.
" 1,290 Hepburn & Co.
" 683 Union L. Co., Ld.
Saffron
Spain, 1 pk. Nich's Wvs., Ld.
Tanners' Bark
Belgium, 40 t. L. & Til. L. C. & D. Co.
Cape, 70 A. & W. Nesbitt
Adelaide, 49 H. Devitt & Co.
Cape, 49 Flack, Chandler & Co.
" 10 Boutcher, Mortimore & Co.
" 52 J. T. Rennie, Son & Co.
Melbourne, 5 P. & O. Co.
Valonia
Turkey, 56 t. A. & W. Nesbitt
" 20 F. Claydon & Co.
" 50 W. H. Mitchell
" 200 Boutcher, Mortimore & Co.

Farina—
Holland, 100 pks. J. Knill & Co.
" 300 J. Barber & Co.
" 200 R. Bennett & Co.
Germany, 100 Hernu, Peron & Co.
Holland, 100 H. Lorenz

Glauber Salts—
Germany, £30 Deering & Robottom

Glucose—
U. States, 650 pks. 4,351 c. Fellows, Morton, & Co.
" 800 1,242 Ohlenschlager Brs.
" 2,300 2,300 L. & I. D. Jt. Co.
" 250 250 Trier, Meyer & Co.
" 1,250 1,250 Pearce, Pelly & Co.
" 650 650 Barrett Tagant & Co.
" 500 500 Beresford & Co.
" 300 1,800 E. & T. Pink
" 20 115 Mid. Rly. Co.
" 100 613 L. & Til. Ltge. Co.
Germany, 200 200 Baxter & Hoare
U. States, 75 320 T. M. Duche & Sons
" 300 1,838 T. A. Smith & Co.
" 1,250 1,250 E. Thompson & Co.
" 50 289 A. E. Piggott
" 100 570 Soundy & Sons
Germany, 20 163 M. D. Co.
U. States, 500 500 C. Mangold & Co.
" 25 80 Tulbooke & Fulsch
France, 40 40 J. Barber & Co.
B. W. I., 200 1,115 J. R. Francis & Co.
U. States, 8,930 21,826 R. G. Hall & Co.

Glue—
France, £35 Flageollet & Co.
" 100 W. E. Cole
" 140 Morrison, Pollenfer & Co.
Holland, 19 T. H. Lee
Belgium, 294 Duche & Sons
Belgium, 66 Burnett, Brs. & Sons
France, 210 C. A. & H. Nichols
Germany, 30 Craven & Co.
" 140 J. Greig
Norway, 10 G. P. Jennings & Co.
Germany, 25 Phillipps & Graves
" 600 Deering & Robottom
Belgium, 705 J. Barber & Co.
U. States, 63 B. Winstone & Sons
Germany, 82 Ohlenschlager Brs.

Glue Stock—
Germany, 10 bls. L. & I. D. Jt. Co.
N. Zealand, 92 Deering & Robottom
Sydney, 5 T. J. & T. Powell
" 3 Dyster, Nalder, & Co.
Germany, 29 Hicks, Nash, & Co.
Holland, 9 "
H. Kong, 200 J. W. Cook & Co., Ld.
Germany, 12 Butler's Wf., Ld.

Gutta Percha—
Holland, 8 c. Browne, Geveke & Co.
Straits, 285 Huttenbach & Co.
" 30 Anderson, Weber & Smith
" 150 Wrightson & Co.
" 213 Yokins & Co.
Guiana, 60 Jackson & Gill
Straits, 276 L. & I. D. Jt. Co.

Gypsum—
Germany, 1,660 pcs. L. & I. D. Jt. Co.

Kainit—
Germany, 51 t. Perkins & Hoare

Lead Acetate—
Germany, £92 Butler's Wf., Ld.

Litharge—
Germany, 3 pks. Butler's Wf., Ld.
" 50 Spies Brs. & Co.
" 31 B. Winstone & Sons, Ld.

Lithopone—
Holland, 20 pks. Taylor Brs.

Manganese—
Germany, 7 t. R. Ulrich
" 8 C. Hoff & Co.

Methyl Alcohol—
U. States, 25 dms. H. Wallace & Co.

Mica—
Germany, £5 Craven & Co.

Calcutta, 115 L. & I. D. Jt. Co.
Canada, 27 W. M. Smith & Sons
Ceylon, 65 "

olasses—
U. States, 100 hds. 600 c. E. & T. Pink
" 5 50 L. & I. D. Jt. Co.
" 500 2,698 Ohlenschlager Brs.
" 450 2,541 Seaward Brs.
" 63 315 Wilson & Furness Leyland Line
" 350 1,960 R. G. Hall & Co.
" 100 568 W. & W. H. Stead
" 125 brls. 675 G. Hornzee
Germany, 456 cks 2,270 J. R. Francis & Co.

chre—
Spain, 100 pks. J. L. Lyon & Co.
France, 33 "
" 9 J. Flack
Germany, 1 H. Keller & Co.
Holland, 9 Phillipps & Graves

xalic Acid—
Norway, 30 pks. S. C. D. Co.
Holland, 15 R. W. Greeff & Co

araffin Scale—
U. States, 1,875 brls. Anglo-American Oil Co.

araffin Wax—
U. States, 110 brls. Palmer & Co., Ld.
" 200 G. H. Frank
" 350 Anglo-American Oil Co.

hosphate of Lime—
Belgium, 120 t. West & Penrose
France, 220 A. Hunter & Co.
" 194 Odams Manure & Chemical Co.
Holland, 220 "

itch—
Germany, 32 cks. Poth, Hille, & Co.
U. States, 34 F. Gardner
France, 100 Poth, Hille, & Co.

otash—
Belgium, 48 c. A. J. Luke & Co.
Germany, 11 pks. H. Lambert

otassium Bicarbonate—
Holland, 10 pks. A. & M. Zimmermann

otassium Carbonate—
Belgium, 100 c. Petri Brs.
Germany, 200 J. M. Steel & Co.

otassium Chlorate—
Belgium, £48 J. W. Drysdale & Co.

otassium Muriate—
Germany, 1,016 bgs. Bessler, Waechter, & Co.

otassium Oxalate—
Holland, £25 R. W. Greeff & Co.

otassium Permanganate—
Holland, £65 33 pks. R. W. Greeff & Co.

otassium Sulphate—
Germany, 40 pks. F. W. Berk & Co., Ld.

otassium Sulphide—
Holland, £50 J. Owen

yrites—
Spain, 1,810 t. Naylor, Benzon, & Co.
" 1,534 Anderson, Anderson & Co.

osin—
France, 25 brls. Phillipps & Graves

alicylic Acid—
Germany, 4 pks. Butler's Wf., Ld.

altpetre—
Germany, 30 cks. J. Hall & Son
" 166 pks. P. Hecker & Co.
" 2 cks. T. H. Lee

odium Hyposulphite—
Holland, 20 pks. J. Owen

tarch—
Belgium, 719 pks. T. H. Lee
" 110 Leach & Co.
Germany, 1,390 Horne & Co.
U. States, 100 R. G. Hall & Co.
" 375 Bertel Food Co.
Germany, 110 Phillipps & Graves
Belgium, 102 T. H. Lee
U. States, 300 C. Tennant, Sons, & Co.
Belgium, 850 E. & T. Pink
Germany, 16 L. & I. D. Jt. Co.
" 1,430 Horne & Co.
Holland, 190 Phillipps & Graves
Italy, 25 Bellamy's Wf., Ld.
Belgium, 250 Becker & Wagner
" 440 C. Tennant, Sons, & Co.
U. States, 2,000 J. Forsey
Holland, 648 A. Starck
" 3,424 Little & Johnston
" 440 Fellows, Morton, & Co.
U. States, 240 W. G. Taylor & Co., Ld.
France, 5 Beck & Pollitzer

Stearine—
France, 30 bgs. H. Hill & Sons
Belgium, 3 cks. T. H. Lee
" 11, 317 bgs., 136 pks. H. Hill & Sons

Sulphur—
Italy, 15 A. Zumbeck & Co.
" 2 Bailey & Leetham, Ld
" 2 J. Murdock & Co.
" 100 W. C. Bacon & Co.
" 200 B. Jacob & Sons

Tallow—
N. Zealand, 15 cks. Deering & Robottom
" 305 Phillipps & Graves
" 54 J. Graves
" 800 Colonial Consign Co.
U. States, 176 Wilson & Furness Co.
" 549 Prices Pat. Candle Co.
Queensland, 23 Dyster, Nalder, & Co.
N. Zealand, 488 N. Z. L. & M. A. Co.
" 8 H. Hill & Sons
" 243 Goad, Rigg, & Co.
" 35 A. Tremearne & Co.
Germany, 34 cs. Butler's Wf., Ld.
U. States, 2 H. G. Dutfield
" 27 cks. "
" 21 pks. "
" 50 J. L. Hatrick & Co.
" 2 cs. Lunham & Moore
France, 3 cks. H. Hill & Sons

Tar—
Germany, 100 brls. W. Beard & Son

Tartar—
Italy, £30 B. Jacob & Sons

Tartaric Acid—
Holland, 28 pks. B. & F. Wf Co.
France, 6 J. Barber & Co.
Holland, £39 F. C. Devon & Co.
" 34 pks. "
" 8 B. & F. Wf. Co.

Ultramarine—
Germany, 16 pks. Steinhoff, Sons, & Co.
Holland, 4 J. Barber & Co.
" 28 Thames S. T. & L. Co., Ld.
" 4 Phillipps & Graves

Varnish—
——— 6 pks. Dawson Brs.
U. States, 42 Williams, Torrey, & Co.
" 1 L. & I. D. Jt. Co.
Belgium, 4 W. A. Wilson
U. States, 6 Dawson Brs.

Verdigris—
France, 4 pks. B. & F. Wf. Co.

Vermilion—
Hong Kong, 10 pks. R. Warner & Co.

White Lead—
Holland, 98 pks. T. & W. Farmiloe Ld.
" 39 W. Balchin, Ld.
Belgium, 54 J. R. Francis & Co.
Holland, 21 Wilkinson, Heywood & Co.
" 20 Perkins & Homer
Germany, 15 Ostrich
France, 16 J. Watt & Son
Belgium, 45 J. L. Lyon & Co.
Germany, 11 J. Graves
" 14 W. A. Rose & Co.
" 49 Randall Brs.
" 78 Burrell & Co.
Belgium, 46 T. & W. Farmiloe, Ld.
Germany, 19 Perkins & Homer

Wood Pulp—
Norway, 406 pks. W. G. Taylor & Co., Ld.
" 410 Tough & Henderson
Holland, 104 Little & Johnston
Sweden, 320 Alsing & Co., Ld
Holland, 402 Tough & Henderson
Norway, 300 W. E. Bott & Co.
Sweden, 160 G. Hegborg & Co.
" 4,106 Henderson, Craig, & Co.
" 272 C. S. Lovell
Norway, 250 London Paper Mills Co.
Canada, 2,732 Furness, Witby & Co.
" 600 J. Dards
Sweden, 426 M. D. Co.
" 860 W. G. Taylor & Co., Ld.
" 672 London Paper Mill Co.
Norway, 470 Christophersen, Andrews, & Co.

Zinc Oxide—
U. States, 850 pks. M. Ashby, Ld.
Germany, 10 R. W. Greeff & Co
Holland, 100 W. Slimmon
Germany, 60 Spies Brs. & Co.
Holland, 120 M. Ashby, Ltd.
" 50 Fellows, Morton, & Co.
" 10 J. Owen
" 50 Prprs. Dowgate Dk.

Zinc Sulphate—
Germany, £62 Burgoyne & Co.

LIVERPOOL.

Week ending May 26th.

Ammonium Nitrate—
Antwerp, 78 cks.

Barytes—
Antwerp, 18 cks.

Bitumen—
Alexandria, 100 cs.

Boracic Acid—
Leghorn, 25 cks.

Colours—
Antwerp, 2 cks.
Rotterdam, 4 cs.
Genoa, 2 brls.

Cream of Tartar—
Bordeaux, 23 cks.
Spain, 3 pps.

Cryolite—
Hamburg, 4 cs.

Dyestuffs—
Cutch
Amsterdam, 600 bxs.
Divi Divi
Hamburg, 55 bgs.
Extracts
Antwerp, 50 cks.
Gambier
Amsterdam, 2,811 bls. 262 bgs.
Myrabolams
Bombay, 3,960 bgs. D. Sassoon & Co.
" 2,029 "
Orchella
Lisbon, 70 bgs.
Shumac
Palermo, 695 bgs.

Dyestuffs *(otherwise undes.)*—
New York, 50 cs. Pitt & Scott
Genoa, 50 brls.

Felspar—
Gothenburg, 150 bgs.

Glucose—
Boston, 50 brls. T. M. Duche & Sons
" 50 L. Sutro & Co.
New York, 300 Walden & Benham
" 200 T. M. Duche & Sons

Glue—
Rouen, 5 bls. Co-op. W'sale Society, Ld.
Rotterdam, 9 cks. 80 bgs.
St. Nazaire, 8

Glycerine—
Genoa, 20 dms. J. Crosfield & Co.

Guttapercha—
Akassa, 6 bgs. Royal Niger Co.
Burutu, 86 "

Lamp Black—
Gothenburg, 69 cs.

Limestone—
Antwerp, 3 crts.

Manganese Ore—
Rotterdam, 350 t.

Manure—
Alexandria, 55 t.

Mica—
New York, 4 cks.

Ochre—
Rouen, 21 cks. Co-op. W'sale Society, Ld.
Marseilles, 13 brls. Birmingham Colour Co.

Paint—
Rotterdam, 2 brls.

Palm Oil—
Lagos, 138 cks. J. Holt & Co.
" 10 J. D. Fairley
" 80 Lagos Stores & T.
" 150 C. M'Iver & Co.

Paraffin Scale—
New York, 1,783 brls. Thompson & Bedford
" 570 Anglo-Am. Oil Co.
Baltimore, 100

Paraffin Wax—
Baltimore, 100 brls.

Phosphates—
Antwerp, 102 bgs. J. T. Fletcher & Co.
Ghent, 340 t.

Potash—
Dunkirk, 30 dms.
Rotterdam 2 cks.
Rouen, 32 Co-op W'sale Society, Ld.
Montreal, 25 brls.

Potassium Prussiate—
Boston, 29 cks.

Pumice Stone—
Messina, 5 cks.

Pyrites—
Huelva, 3,958 t. Matheson & Co.

Rosin—
Brunswick, 5,600 brls.

Salicylic Acid—
Hamburg, 5 cs.

Salt—
N. Orleans, 250 sks. Morris Beef Co., Ld.

Saltpetre—
Hamburg, 12 cks. 22 kgs.

Soap Stock—
Leghorn, 60 brls. Brown Brs. & Co.

Soapstone—
Bordeaux, 100 bgs. Geo. G. Blackwell, Sons & Co.

Starch—
Hamburg, 288 cs.
New York, 1 pk. A. Ackerley & Son
Antwerp, 274 cs. J. T. Fletcher & Co.
" 302
Rotterdam, 60

Stearine—
Rouen, 13 bgs. Co-op. W'sale Society, Ld.
Boston, 50 tcs. Stevenson & Pal.

Sulphur—
Catania, 150 bgs. 67 brls.

Sulphurous Acid—
Rotterdam, 20 cyldrs.

Tallow—
New York, 95 tcs. 180 hds.
Boston, 1,480 70 brls.
B. Ayres, 350 hf.-pps.
New York, 409 brls. G. W. Rowley
River Plate, 1,345 hds.
Baltimore, 750 tcs.
Boston, 54 G. W. Rowley

Tartaric Acid—
Rotterdam, 11 cks.
Hamburg, 1

Turpentine—
Brunswick, 550 cks. 421 brls.

Varnish—
New York, 1 cs. 63 brls. W. A. Warren

Verdigris—
Marseilles, 10 cks.

Waste Salt—
Hamburg, 3,557 bgs.

White Lead—
Rotterdam, 91 cks.

Wood Pulp—
New York, 357 cs. Lever Brs., Ld.
Montreal, 2,000 bls. A. Rice & Co.
Rotterdam, 53 pks.
Gothenburg, 94 bls.

Zinc Oxide—
Antwerp, 16 brls.
Rotterdam, 20 cks. J. Mathews & Co.

Zinc White—
Rotterdam, 10 cks.

MANCHESTER.

Week ending May 28th.

Acetate of Lime—
Rouen, 154 bgs.

Acetate of Soda—
Rouen, 10 cks.

Acetic Acid—
Ghent, 15 crbys.
Rotterdam, 18 bls. Wilson, Sons, & Co., Ld.

Alizarine—
Rotterdam, 14 cks. Wilson, Sons, & Co., Ld.

Ammonia—
Rotterdam, 5 cylders. Wilson, Sons, & Co., Ld.

Aniline—
Rotterdam, 21 cks. Wilson, Sons, & Co., Ld.

Aniline Colours—
Rouen, 3 cks.

Asbestos—
Genoa, 30 pks.

Barytes—
Antwerp, 40 bgs.
Rotterdam, 200 Wilson, Sons, & Co., Ld.

Chemicals (*otherwise undescribed*)
Rouen, 1 bg.

Citric Acid—
Messina, 4 cks.

Colours—
Rouen, 2 cks.
Antwerp, 2 brls. J. T. Fletcher & Co.
" 1 ck.
Rotterdam, { 55 21 cs. 23 bxs. 167 brls. Wilson, Sons, & Co., Ld.

Extracts—
Rouen, 10 cks.
Antwerp, 15 cs. J. T. Fletcher & Co.
" 4
Rotterdam, 12 cks. Wilson, Sons, & Co., Ld.
Newport News, 100 brls.

Farina—
Rotterdam, 1,000 bgs. W. N. Jackson
" 1,000 Wilson, Sons, & Co., Ld.

Glucose—
Newport News, 200 brls.
New York, 649
Treport, 200 bgs.

Glue—
Genoa, 10 cks.
Hamburg, 10 bls.
Rotterdam, 20 bgs. Wilson, Sons, & Co., Ld.
Rouen, { 10 8 cks. 119 bls.

Glycerine—
Rotterdam, 16 dms Wilson, Sons, & Co., Ld.

Lead Acetate—
Rotterdam, 44 cks. Wilson, Sons, & Co., Ld.

Limestone—
Antwerp, 4 crts. J. T. Fletcher & Co.
" 1 9 cs.

Magnesite—
Antwerp, 4 bgs.

Magnesium—
Rotterdam, 11 cs. Wilson, Sons, & Co., Ld.

Oxalic Acid—
Rotterdam, 13 cks Wilson, Sons, & Co., Ld.

Paraffin Scale—
New York, 700 brls.

Potash—
Rotterdam, 20 dms. Wilson, Sons, & Co., Ld.

Potassium Cyanide—
Hamburg, 5 cs.

Shumac—
Palermo, 600 bls.

Soda—
Rouen, 40 bgs

Sodium Nitrate—
Rotterdam, 16 cks. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 642 cs. Wilson, Sons, & Co., Ld.
N'port News, 1,950 bgs. 800 sks.
New York, 2,700

Sulphuric Acid—
Rotterdam, 20 cks. Wilson, Sons, & Co., Ld.

Tartaric Acid—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Ultramarine—
Hamburg, 10 cks. 10 cs.
Rotterdam, 4 Wilson, Sons, & Co., Ld.

White Lead—
Rotterdam, 56 cks. Wilson, Sons, & Co., Ld.

Wood Pulp—
Christiania, 40 bls.
Skien, 2,330
Drammen, 880
Skien, 480 W. H. Ingram

Zinc Oxide—
Antwerp, 80 brls.
Rotterdam, 16 Wilson, Sons, & Co., Ld.

Zinc White—
Rotterdam, 10 cks. Wilson, Sons, & Co., Ld.

GLASGOW.

Week ending June 2nd.

Alumina Sulphate—
Rotterdam, 100 bgs. J. Rankine & Son
62 cks.

Asbestos—
New York, 320 bgs.

Barium Chloride—
Rotterdam, 2 cs. J. Rankine & Son

Barytes—
Rotterdam, 124 cks. J. Rankine & Son
200 bgs. 57 pks

Barium Sulphate—
Antwerp, 95 cks. 50 bgs.

Bleaching Powder—
Rotterdam, 45 cks. J. Rankine & Son

Castor Oil—
Antwerp, 55 cks.

Colours—
Rotterdam, 273 pks. J. Rankine & Son
1 cs.
Hamburg, 4 cks. 9

Dyestuffs—
Aniline
Amsterdam. 1 ck. J. Rankine & Son
Aniline Colours
Hamburg, 4 cks. 2 cs.

Dyestuffs (*otherwise undescribea*)
Antwerp, 10 cs.

Glucose—
New York, 550 brls.

Lactic Acid—
Boston, 10 brls.

Magnesite—
Hamburg, 10 bgs.

Molasses—
Montreal, 1 hd.

Painters' Colours—
Antwerp, 1 ck.

Potash—
Rotterdam, 64 cks. J. Rankine & Son

Pyrites—
Huelva, 1,969 t. Tharsis Co.

Saltpetre—
Hamburg, 52 cks. 4 bgs.

Soap—
New York, 329 bls.

Sodium Sulphate—
Antwerp, 18 cks.

Starch—
Rotterdam, 185 cs. J. Rankine & Son
Antwerp, 270

Tar Waste—
Rotterdam 4 cs. J. Rankine & Son

Ultramarine—
Hamburg, 1 ck.

Varnish—
New York, 107 brls.

Waste Salt—
Hamburg, 270 cks. 118 bgs.

White Lead—
Rotterdam, 51 cks. J. Rankine & Son

Wood Pulp—
Christiania, 3,830 bls. 75 cs.

Zinc Oxide—
New York, 100 brls.

Zinc White—
Rotterdam, 37 pks. J. Rankine & Son

HULL.

Week ending May 28th.

Acids—
Bari, 28 cks. Wilson, Sons, & Co., Ld.

Alizarine—
Rotterdam, 3 brls. Hutchinson & Son

Antimony—
Dunkirk, 3 cks. Wilson, Sons, & Co., Ld.

Barytes—
Bremen, 100 bgs.
Rotterdam, 12 cks. W. & C. L. Ringrose
Antwerp, 37 H. F. Pudsey
" 36 Wilson, Sons, & Co., Ld.

Borax—
Bremen, 10 cks.

Chemicals (*otherwise undescribed*)
Gothenburg, 4 cks. Wilson, Sons, & Co., Ld.
Antwerp, 4 dms. "
Hamburg, 1 pk. "

Colours—
Rotterdam, 2 cks. Hutchinson & Son
Antwerp, 5 Bailey & Leetham, Ld.
4 pks Wilson,
" 3 cks. Sons, & Co., Ld.
Ghent, 11 "
Hamburg, 9 pks. Bailey & Leetham, Ld.

Cryolite—
Copenhagen, 4 cks. Wilson, Sons, & Co., Ld.

Dyestuffs—
Extracts
Fiume, 150 brls. Wilson, Sons, & Co., Ld.
Shumac
Trieste, 5 brls. Wilson, Sons, & Co., Ld.
Palermo, 1,734 bgs. "
" 430 bls.
Valonia
Smyrna, 318 t.

Farina—
Harlingen, 650 bls. Hutchinson & Son

Glucose—
New York, 25 brls. Wilson, Sons, & Co., Ld.
" 250

Glue—
Bergen, 10 brls. Wilson, Sons, & Co., Ld.
Hamburg, 75 bgs. "
Rouen, 16 cs. Rawson & Robinson
Dunkirk, 60 cks. Wilson, Sons, & Co., Ld.
Antwerp, 4 bls. "

Indigo—
Hamburg, 4 pks. Wilson, Sons, & Co., Ld.

Nickel Salt—
Rotterdam, 2 cks. W. & C. L. Ringrose

Ochre—
Rouen, 53 cks. Rawson & Robinson

Paint—
Copenhagen, 1 brl. Wilson, Sons, & Co., Ld.

Phosphate—
Dunkirk, 2,025 bgs. Wilson, Sons, & Co., Ld.

Pitch—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.

Potash—
Dunkirk, 62 cks. Wilson, Sons, & Co., Ld.

Pyrites—
Huelva, 830 t.
Seville, 400

Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.

Soap—
Trieste, 1 cs. Wilson, Sons, & Co., Ld.

Soda—
Ghent, 20 bgs. Wilson, Sons, & Co., Ld.
Antwerp, { 100 105 pks. "

Sodium Nitrate—
Pisagua, 7,641 bgs.

Starch—
Antwerp, 14 cs.
Bremen, 1,094 Veltmann & Co.
Ghent, 168 Wilson, Sons, & Co., Ld.
Amsterdam, 40 W. & C. L. Ringrose

Stearine—
Antwerp, 6 bgs. Wilson, Sons, & Co., Ld.

Sulphur—
Catania, 776 pks. Wilson, Sons, & Co., Ld.
" 560 bgs.
Palermo, 80 "

Tallow—
Boston, 225 brls. Wilson,
47 tcs. Sons, & Co., Ld.
New York, 255 "
Hamburg. { 30 15 brls. "
Dunkirk, 296 cks. "

Tartaric Acid—
Rotterdam, 6 cks. W. & C. L. Ringrose

Turpentine—
Libau, 52 brls. Bailey & Leetham, Ld.

Ultramarine—
Bremen, 36 cks.
Rotterdam, 24 W. & C. L. Ringrose

Waste Salt—
Hamburg, 422 bgs. Bailey & Leetham, Ld.
" 1,113
" 40 t.

White Lead—
Rotterdam, 70 cks. Hutchinson & Son
Amsterdam, 23 W. & C. L. Ringrose

Wood Pulp—
Christiania, 443 bls. Wilson, Sons, & Co.
Gothenburg, 677 "

Zinc White—
Antwerp, 40 cks. Bailey & Leetham, Ld.
Rotterdam, 40 W. & C. L. Ringrose

TYNE.

Week ending May 28th.

Barytes—
Rotterdam, 66 cks. T. S. S.
100 bgs.

Colours—
Antwerp, 8 cks. Tyne S. S.

Dynamite—
Rotterdam, 360 cs.

Glucose—
New York, 200 brls.

Lithopone—
Hamburg, 34 cks. Tyne S. S.

Phosphate—
Antwerp, 210 t. Lancashire Chemical M.

Saltpetre—
Hamburg, 2 cks. Tyne S. S.

Soap—
Rotterdam, 2 cs. Tyne S. S.

Starch—
Rotterdam, 90 cs. Tyne S. S.

Stearine—
Rotterdam, 7 bgs. Tyne S. S.

Superphosphate—
Gothenburg, 20 bgs.

Zinc Oxide—
Antwerp, 25 brls. Tyne S. S.

GOOLE.

Week ending May 25th.

Alizarine—
Hamburg, 52 cks.
Rotterdam, 61

Aniline—
Hamburg, 110 cks. 22 cs.
Rotterdam, 385 73

Antimony—
Boulogne, 8 cs.

Barytes—
Antwerp, 17 bgs.

Caoutchouc—
Antwerp, 1 cs.
Boulogne, 12 cks. 2

Coal Products—
Hamburg, 20 cs.

Colours—
Hamburg, 1 ck. 1 cs.

Copper Precipitate—
Rotterdam, 10 cs.

Dyestuffs—
Boulogne, 84 cks.

Farina—
Amsterdam, 250 bgs.
Hamburg, 150
Fustic—
Jamaica, 412 t.
Logwood—
Hayti, 516 t.
Ochre—
Dunkirk, 49 cks.
Phosphate—
Dunkirk, 800 bgs.
Potash—
Calais, 28 dms.
Dunkirk, 62 cks. 16
Rotterdam, 10
Saltpetre—
Hamburg, 100 bgs. 8 brls.
Rotterdam, 100
Silicate Soda—
Hamburg, 6 cks.
Rotterdam, 6
Tartar—
Hamburg, 2 cks.
Rotterdam, 2
Varnish—
Amsterdam, 7 cs.
Waste Salt—
Hamburg, 140 cks.
Wood Pulp—
Hamburg, 54 pks.

GRIMSBY.

Week ending May 28th.

Alkali—
Hamburg, 6 pks.
Caoutchouc—
Hamburg, 1 cs. 2 pks.
Rotterdam, 3
Chemicals *(otherwise undescribed)*
Antwerp, 10 cs.
Hamburg, { 15 bgs. 16 cks. 5
Rotterdam, 19
Colours—
Antwerp, 13 cks. 109 pks.
Dieppe, 9
Hamburg, 38 17 cs. 31
Rotterdam, { 7 14 50 bgs.
Zinc—
Rotterdam, 23 pks.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 1st.

Acids—
Channel Is., 30 crbys. £47
Pt. Elizabeth, 50 cs. 64
Colombo, 7 26
Alkali—
Perth, 3 t. 7 c. £12
Geraldton, 2 2 7
Sourabaya, 14 2 75
New York, 11 5 139
Ammonia—
Shanghai, 1 c. £5
Cologne, 15 cyldrs. 40
Berbice, 51 t. 16 484
Santos, 20 dms. 33
Ammonium Carbonate—
B. Ayres, 1 t. £35
St. Petersburg, 8 6 c. 215
Ammonium Chloride—
Lisbon, 2 cks. £17
Cologne, 21 97
Ammonium Sulphate—
Dunkirk, 35 t. 19 c. £325
Samarang, 140 10 1,260
Sourabaya, 850 1 7,862
Bleaching Powder—
Adelaide, 6 c. £5
Borax—
Harlingen, 7 c. £16
Carbolic Acid—
Marseilles, 5 t. 11 c. £50
Carbonic Acid Gas—
Channel Is., 46 tubes £18
Caustic Potash—
Nelson, 13 c. £21
Wellington, 9 12
Caustic Soda—
Philadelphia, 16 t. 15 c. £120
Nelson, 4 4 33
E. London, 5 8 83
Otago, 1 1 27
Chemicals *(otherwise undescribed)*
Amsterdam, 1 ck. £30
Townsville, 1 cs. 11
Treport, 10 45
Melbourne, 10 110 pks. 169
Brisbane, 4 30
New York, 2 18
Fremantle, 21 83
Demerara, 25 100 cbys. 33
Adelaide, 14 pks. 67
Wellington, 34 dms. 5 140
Bombay, 23 35
Lisbon, 3 c. 11
Aden, 1 cs. 45
Paris, 4 cks. 1 14
Durban, 53 50
Otago, 74 210
Citric Acid—
Calcutta, 5 c £33
Colombo, 1 7
Fremantle, 5 31
B. Ayres, 5 30
Lisbon, 10 56
Melbourne, 1 113
St. Petersburg, 13 86
Montreal, 1 113
Durban, 3 17
Coal Products—
Alizarine
Boston, 10 cks. £168
Aniline
Genoa, 10 dms. £275
Calcutta, 1 cs. 6
New York, 23 650
Sydney, 1 11
Anthracene
Rotterdam, 241 cks. £490
Benzol
Hamburg, 25 cks. £101
Creosote
New York, 1,100 cks. £748
Naphthaline
Dusseldorf, 500 bgs. £244
Calcutta, 20 kgs. 13
Pitch
St. Nazaire, 932 t. £980
Wiborg Town, 100 95
Pt. Elizabeth, 23 cks. 6
Durban, 30 kgs. 3
Tar
Pt. Louis, 6 rnlts. £5
Pt. Elizabeth, 50 dms. 6
Wiborg Town, 498 brls. 274
Durban, 40 8
Toluol
Rotterdam, 9 cks £150
Coal Products *(otherwise undes.)—*
Delagoa Bay, 120 dms. £19
Christiania, 50 firkins 10
Copper Sulphate—
Durban, 8 c. £7
Cape Town, 9 8
Delagoa Bay, 10 10
Bourgas, 1 t. 10 24
Nelson, 1 5 39
Bordeaux, 18 10 304
Sourabaya, 4 8 75
Rouen, 5 83
Auckland, 6 6
Ghent, 11 180
Cream of Tartar—
E. London, 2 cs. £19
Wellington, 3 c. 11
Durban, 3 11
Disinfectants—
Mombasa, 40 cks. 60 dms. £32
St. Helena, 7 pks. 7 10
Colombo, 4 cs. 12
Brisbane, 2 10
Melbourne, 79 84
Calcutta, { 45 210 5 t. 16 c. 664
Hydrochloric Acid—
E. London, 15 cs. £10
Manure—
Launceston, 50 t. £190
Jamaica, 15 5 c. 160
Nelson, 50 200
Trinidad, 10 1 70
Durban, 10 47
Berbice, 25 206
Nitric Acid—
E. London, 15 cs. £24
Oxalic Acid—
Lisbon, 4 cks. £39
Newcastle, 1 t. 14 c. 54
Phosphate—
Melbourne, 200 t. £665
Launceston, 65 152
Phosphorus—
E. London, 3 cs. £27
Potash—
Stettin, 1 t. 18 c. £76
Potassium Bicarbonate—
Sydney, 5 c. £5
Potassium Carbonate—
Durban, 10 c. £12
Potassium Chlorate—
Trinidad, 10 kgs. £14
Potassium Cyanide—
New York, 100 cs. £485
E. London, 94 917
Melbourne, 50 530
Townsville, 25 10 t. 858
Durban, 2 214
Sydney, 25 263
Saltpetre—
Pt. Elizabeth, 11 c. £11
Otago, 10 10
Sydney, 2 t. 42
Wellington, 10 10
Sheep Dip—
Pt. Elizabeth, 55 dms. £25
Adelaide, 200 cs. 450
Sydney, 500 875
B. Ayres, 750 1,688
Hawkes Bay, 2 t. 16 c. 27
Durban, 36 dms. 2 cs. 15
Townsville, 10 10
Soda—
Durban, 2 c. £16
Soda Ash—
Dunedin, 7 t. 13 c. £36
Soda Crystals—
Sourabaya, 15 t. 3 c. £46
Sodium Bicarbonate—
Sydney, 20 cks. £30
Pt. Elizabeth, 1 t. 10 c. 52
Melbourne, 1 18
Sodium Carbonate—
Wellington, 32 cks. £28
Sulphur—
Nelson, 10 c. £9
Sulphuric Acid—
Cape Town, 4 t. 10 c. £40
Tartaric Acid—
E. London, 2 cs. 2 c. £41
Brisbane, 2 13
Charters Towers, 3 14
Fremantle, 5 31
B. Ayres, 5 30
Sydney, 10 56
Karachi, 1 38
Napier, 2 11
Wellington, 3 19

LIVERPOOL.

Period ending June 1st.

Acetic Acid—
Barcelona, 5 c. £45
Alkali—
Bombay, 6 t. 2 c. 1 q. £25
Calcutta, 7 4 2 30
San Sebastian, 9 19 40
B. Ayres, 11 11 46
Lisbon, 4 12 3 20
Hamburg, 2 5 1 15
Piræus, 14 10 4 58
Antwerp, 19 brls.
Lisbon, 70
Mauritius, 35
Messina, 35
Alum—
Montreal, 4 t. 3 c. 3 q. £21
Dunedin, 2 11
Victoria, B.C., 19 5
Pernambuco, 1 5
Varna, 2 17 2 13
Santos, 2 9 1 11
Calcutta, 5 14 1 30
Ammonium Carbonate—
Rangoon, 10 c £18
Gothenburg, 16 2 q. 21
Barcelona, 1 t. 25
Genoa, 5 2 20 kgs. 170
Rouen, 1 24
Ammonium Chloride—
Galatz, 1 t. 15 c. £46
Montreal, 7 10
Trieste, 1 30
Ammonium Sulphate—
Barcelona, 15 t. £135
Madeira, 2 —
Baltimore, 50 8 c. 450
Cape Town, 5 1 2 q. 50
Valencia, 198 16 3 1,749
Samarang, 60 13 627
Anhydr us Ammonia—
Gibraltar, 13 cs. £20
Aniline Salts—
Alexandretta, 20 cks.
Boston, 30 cs.
Lisbon, 2
New York, 12
Smyrna, 33
Arsenic—
Hiogo, 2 t. £52
Barium Chlorate—
Genoa, 6 c. £20
Bleaching Powder—
Baltimore, 52 brls.
Bombay, 35 cs.
Boston, 71 cks.
Chicago, 50 pks.
Georgetown, 23
Halifax, 10
New York, 40
Philadelphia, 162
Boracic Acid—
Montreal, 18 c. 3 q. £25
Toronto, 18 3 26
Borax—
Charlotte Town, 3 c. £7
Toronto, 10 145
Rotterdam, 11 6 167
Maastricht, 15 4 2 221
Mayence, 10 8
New York, 4 12
Montreal, 3 3 1 47
Perth, 1 18
Stockholm, 2 3 3 30
Genoa, 1 15
Victoria, B.C., 3 2
Ancona, { 1 2 1 ck. 10 brls. 32
Leghorn, 35 40
Algoa Bay, 20 kgs. 18
Naples, 15 20
Carbolic Acid—
B. Ayres, 7 c. £41
Tampico, 2 7
New York, 52 cks. 443
Hamburg, 1 t. 6 c. 2 q. 87
St. Petersburg, 2 5 3 171
Baltimore, 4 18 3 310
Genoa, 1 4 3 73
Montreal, 1 30
Madras, 1 7 3 44
Calcutta, 1 35
Rouen, 1 10 97
Rotterdam, 10 630
Algoa Bay, 2 cs. 6
Castor Oil—
Addah, 10 cs.
Caustic Soda—
Alexandria, 36 dms.
Amsterdam, 113
Antwerp, 31
Anenia, 10
Bombay, 165
Bordeaux, 15
Boston, 330 25 brls.
B. Ayres, 190
Chicago, 148 pks.
Corinto, 16
Delagoa Bay, 35
Demerara, 450
Dunedin, 95 kgs.
Eten, 5
Genoa, 14
Ghent, 15
Hamburg, 100
Libau, 173
Marseilles, 38

Monterey, 50
M. Video, 50
Naples, 15
Odessa, 50
Pernambuco, 124
Philadelphia, 150
Pt. Natal, 20 brls.
Rangoon, 10
Riga, 75
Rio G. Do Sul, 100
Rotterdam, 50
Shanghai, 40
Sourabaya, 25
Tampico, 372
Toronto, 135
Trieste, 100
Tripoli, 205 cs.
Valencia, 120

Chemicals (*otherwise undescribed*)
Hamburg, 8 c. £11
Montreal, 2 t. 12 3 q. 45
Odessa, 15 10 385
Bombay, 3 15 13
Palermo, 6 3 5
Alexandria, 1 14
Philadelphia, 20 3 595
Genoa, { 2 10 / 4 cks. 7 brls. } 1 5
Braila, 7 33
Galatz, 7 31
Rouen, 20 48
Yokohama, 10 76

China Clay—
Baltimore, 310 cks.
Boston, 2,522
Calcutta, 920
Genoa, 35
Lisbon, 200 bgs.
Montreal, 200 200
Naples, 40
Newport News, 730
New York, 20
Philadelphia, 1,152
Rio de Janeiro, 40
Trieste, 400

Chromium Acetate—
Naples, 10 c. £23

Citric Acid—
Vera Cruz, 1 c. £6

Coal Products—
Naphthaline
New York, 10 cks.

Coal Products (*otherwise undes.*)—
Boston, 84 cks.

Cobalt Oxide—
Lisbon, 2 q £17

Copper Sulphate—
Salonica, 1 t. 2 c. £15
Cette, 595 6 2 q. 9,714
Bordeaux, 354 3 5,650
Genoa, 23 3 363
Copenhagen, 10 8
Reval, 5 2 79
Vera Cruz, 9 7
Colombo, 3 cks. 13
Venice, 15 t. 3 252
Samarang, 6 19 2 12
Leghorn, 10 8 156
Nantes, 25 10 2 419
Hamburg, 4 18 2 79
Antwerp, 7 9 112
Galatz, 5 18 3 56
Varna, 3 51
Libau, 1 3 2 18
Trieste, 10 2 1 165
Ghent, 20 5 3 316
Messina, 2 1 33
Valparaiso, 2 5 36
Talcahuano, 9 1 1 151
Sourabaya, 1 1 3 17
Naples, 3 48
Rouen, 9 17 156

Copperas—
Montreal, 5 t. £15
San Francisco, 14 10 c. 3 q. 29
Madras, 2 1 4

Cream of Tartar—
Cartagena N.G., 1 c. £4
Buenaventura, 1 2 q. 7
Delagoa Bay, 60 kgs. 308

Disinfectants—
Calcutta, 7 t. 10 c. £50

Dried Blood—
Paris, 30 t. £200
Nantes, 12 102
Gd. Canary, 3 20

Glycerine—
Colombo, 1 c. 1 q. £5
Bombay, 4 10
Hiogo, 40

Gypsum—
Rio de Janeiro, 2 t. 4 c. 1 q. £6

Hydrochloric Acid—
Mollendo, 2 c. 2 q. £2

Magnesia—
Bordeaux, 18 cs.
Rouen, 40
Vera Cruz, 1 c. £5

Magnesium Carbonate—
Vera Cruz, 6 c. 1 q. £10

Magnesium Chloride—
Rouen, 10 t. 1 c. £27

Magnesium Sulphate—
Lisbon, 17 cks.
Oporto, 100 bgs.
Parangua, 30 cs.

Manure—
B. Ayres, 2 t. £65

Nitric Acid—
Mollendo, 2 c. 2 q. £6

Paint—
Algoa Bay, 14 kgs.
Antwerp, 62 pks.
Belize, 15 cks.
Bombay, 21 dms.
Cabedello, 50
Calcutta, 110
Cape Haitien, 2
Coquimbo, 8
Delagoa Bay, 40
Hamburg, 9
Havre, 31
Hong Kong, 24
Kingston, 3
Madras, 1
Maranham, 6
Manaos, 4 cs.
Pelotas, 50
Rotterdam, 13 3
St. Thomas, 4 pks.
St. John's, Nfd. 176
Secondi, 70
Smyrna, 150

Painter's Colours—
Cape Town, 27 pks.
Mazatlan, 3 brls.
M. Video, 56
Para, 51
Seville, 28
Sierra Leone, 19
Valparaiso, 15 dms. 15 cs.

Paraffin Wax—
Barcelona, 25 bgs.
Constantinople, 25 cs.
Leghorn, 20
Palermo, 17
Rio de Janeiro, 6

Phosphorus—
Progresso, 2 c. £25
Vera Cruz, 3 1 q. 17
Osaka, 10 85

Picric Acid—
San Francisco, 5 t. 14 c. 1 q. £570

Potassium Bichromate—
Tampico, 16 c. £32
Alexandretta, 17 36
Naples, 2 t. 9 3 q. 87
Rio de Janeiro, 15 29

Potassium Carbonate—
Rio G Do Sul, 1 t. 4 c. £25
Genoa, 1 20

Potassium Chlorate—
Montreal, 17 t. £478
Naples, 1 30

Potassium Cyanide—
Corunna, 7 c. £48

Potassium Stannate—
Bombay, 1 t. 2 q. £56

Salt—
Adjuah, 6 t.
Algoa Bay, 20
Amsterdam, 110
Antwerp, 185
Benin, 15 12 c.
Bleiron, 7 7
B. Ayres, 12 16
Calcutta, 2,577 17
E. London, 141
Egwanga, 20
Gefle, 502
Lagos, 400
Matadi, 14 5
Melbourne, 35
Monrovia, 18
New York, 100 cs.
Paysandu, 25
Rotterdam, 227
Salt Pond, 25
Shanghai, 17 c.
Townsville, 396 1

Saltpetre—
M. Video, 4 c. £6
Maranham, 5 6
Montereig, 3 3
Parnahyba, 2 t. 10 54

Sheep Dip—
B. Ayres, 13 t. 2 c. 2 q. £135
Calcutta, 5 11 3 125

Soap—
Aix la Chapelle, 30 bxs.
Algoa Bay, 2,435
Antwerp, 50 cs.
Attaboe, 12
Ball, 10 500
Bakana, 100
Bangkok, 100
Barbadoes, 20
Bathurst, 200
Beyin, 100
Bombay, 1,835 8
Bonny, 300
B. Columbia, 2
Brussels, 1,960
B. Ayres, 200 5
Cairo, 40
C. C. Castle, 1,474
Cape Town, 750
Chaina, 100
Colombo, 1
Constantinople, 4 cks. 5 brls.
Coquimbo, 1 cs.
Corinto, 150 bxs.
Delagoa Bay, 800 200
Dominica, 20
Durban, 210
E. London, 3,585 2,514 pks.
Gibraltar, 20
Gd. Canary, 101
Guadeloupe, 376
Half Jack, 35
Halifax, 78
Hamburg, 50
Hong Kong, 1,803
Johannesburg, 50
Kingston, 2,550
Lagos, 100 680
Leghorn, 10
Lome, 30
Malta, 20
Macassar, 600
Manaos, 690
Mauritius, 531
Menado, 1,000
Opobo, 1,000
Para, 610
Pt. Natal, 2,270 200
Pt. Elizabeth, 1,050
Rangoon, 1,000
Re Union, 500
Rotterdam, 290
St. John's, N'fd., 20 20
Salt Pond, 60
Shanghai, 8,956
Sierra Leone, 190
Singapore, 250
Toronto, 575

Soda—
Cairo, 45 brls.
Florence, 5 cs.
Kingston, 100 kgs.
Malta, 50 brls.
Montreal, 275

Soda Ash—
Aalborg, 200 bgs.
Antwerp, 50
Boston, 32 tcs. 35 cks.
Calcutta, 362 pks.
Genoa, 100
Johannesburg, 120 kgs.
New York, 125 cks.
Philadelphia, 420 bgs.
Rio de Janeiro, 16
St. Stephen, 80
San Francisco, 136
Sydney, 22
Townsville, 97
Vancouver, 56
Yokohama, 100

Soda Crystals—
Alexandria, 50 brls.
Bombay, 50 kgs.
B. Ayres, 100

Sodium Bicarbonate—
Auckland, 100 kgs.
Bombay, 125
Bordeaux, 10
B. Ayres, 40
Cape Town, 30 bgs.
Galatz, 34 cks.
Gutujewski, 200 kgs.
Jimercayell, 20
Kingston, 100
Melbourne, 479
Mexico, 18
Monterey, 25
Naples, 35
Nauplia, 40
N. Orleans, 25 brls.
Odessa, 880
Paris, 45
Salonica, 20
Smyrna, 70
Sourabaya, 20
Sydney, 180
Townsville, 220
Trieste, 100
Vancouver, 4
Vigo, 10

Sodium Carbonate—
Hamburg, 2 cks.

Sodium Sulphate—
Dunedin, 18 dms.
Gefle, 502 t. £[illegible]

Sulphur—
Parnahyba, 1 t. 1 c. 5 q. £[illegible]
Newport, 1
Montreal, 110 6 4
Baltimore, 783 bgs. £[illegible]

Sulphuric Acid—
Rio de Janeiro, 10 cs.
Mollendo, 2 c. 2 q.

Superphosphate—
Gd. Canary, 5 t. £[illegible]

Yarnish—
Aviles, 8 brls.
Boston, 16 cks.
Colombo, 3
Dunedin, 3
Hong Kong, 10 cs.
Leghorn, 8
Naples, 2
Pernambuco, 1
Valencia, 1

MANCHESTER

Period ending June 1st.

Alum—
Bagdad, 8 brls.
Bombay, 66

Aniline—
Belgium, 5 dms.

Aniline Colours—
Beyrout, 21 cs.
Germany, 1 ck.

Aniline Oil—
France, 8 cks.
Germany, 5 pns.

Aniline Salts—
Germany, 5 pns.

Anthracene—
Germany, 95 cks.

Asbestos—
Bombay, 1 cs.

Bones—
Beauvais, 394 bgs.

Borax—
Alexandria, 20 kgs.

Carbolic Acid—
France, 142 btls.

Caustic Potash—
Bombay, 2 dms.

Cement—
Belgium, 1 cs.

Chemicals (*otherwise undescribed*)
Hamburg, 6 cks. 8 kgs.
Gabes, 20 brls.
Rotterdam, 15 3 cs. 7

Colours—
Bushire, 3 cs.

Copperas—
Alexandria, 102 brls.
Shuster, 200

Disinfectants—
Bombay, 126 cks. 3 cs.

Extracts—
France, 8 cks.

Farina—
Bombay, 10 bgs.

Glue—
Germany, 30 cks.

Linseed Oil—
Mersyne, 3 brls.

Naphtha—
Treport, 36 cks.

Painters' Colours—
Jaffa, 7 pks.

Palm Oil—
Holland, 1 ck.

Paraffin Wax—
Jaffa, 4 cs.

Pitch—
Belgium, 3,990 c.

Potassium Bicarbonate—
Bushire, 8 cs.

Soap—
Bombay, 12 cs.
Bussorah, 150 bxs. 1
Soda Crystals—
Jaffa, 7 brls.
Sodium Bicarbonate—
Alexandretta, 1 kg.
Paris, 34
Sodium Naphthionate—
France, 50 bgs.
Germany, 30 cks.
Sulphuric Acid—
Mahomera, 8 cs.
Tar—
Paris, 30 brls.
Tar Oil—
Belgium, 5 brls.
Turpentine—
Jaffa, 1 brl.

HULL.

Week ending May 28th.

Alkali—
Abo, 1 ck.
Dunkirk, 1 / 1 bg.
Fiume, 19 cks.
New York, 175
Riga, 15 / 305 kgs.
Bones—
Dunkirk, 10½ t.
Caustic Soda—
Riga, 109 dms.
Chemicals (*otherwise unaescribed*)
Abo, 14 cks.
Amsterdam, 12 pks.
Antwerp, 5
Bergen, 5
Christiania, 7
Copenhagen, 32 6 cs. 40
Danzig, 60 10
Gothenburg, 10 15
Hamburg, 46
Konigsberg, 6
Libau, 100
New York, 199 9
Rotterdam, 1 8
Riga, 200 kgs. / 39 cks.
Stockholm, 10
Stettin, 40 / 134 bgs. 3
Cottonseed Oil—
Amsterdam, 301 c.
Antwerp, 422
Copenhagen, 154
Ghent, 201
Hamburg, 230
Rotterdam, 422
Rouen, 19
Stockholm, 302
Creosote—
Hamburg, 10 brls.
Dyestuffs (*otherwise undescribed*)
Hamburg, 263 bgs.
Linseed Oil—
Amsterdam, 94 c.
Antwerp 76
Christiania, 58
Christiansand, 37
Copenhagen, 235
Drontheim, 126
Gothenburg, 8
Hamburg, 99
New York, 179
Paint—
Bremen, 20 cks.
Ghent, 1 cs.
Painters' Colours—
Amsterdam, 8 cks. 1 cs. 8 dms.
Antwerp, 15 1 64 pks.
Christiania, 3 1 135 / 30 dms.
Christiansand, 52 pks
Copenhagen, 13 1 8 dms.
Danzig, 3
Drontheim, 2 20
Dunkirk, 2 22 pks.
Gothenburg, 1 70 / 16 dms.
Ghent, 23 1 2
Hamburg, 43 15 20 pks.
New York, 144
Rotterdam, 11 1
Rouen, 16
Stockholm, 1 dm.
St. Petersburg, 50
Stettin, 22 1 300 pks.
Pitch—
Antwerp, 394 t.
New York, 220 brls.
Stettin, qty.
Slag Meal—
Stettin, 2,040 bgs.
Soap—
Amsterdam, 50 cs.
Gothenburg, 1
Starch—
Copenhagen, 470 cs.
Tallow—
Dunkirk, 79 cks.
Riga, 25
Tar—
Amsterdam, 12 cks.
Copenhagen, 10 15 brls.
Danzig, 3
Drontheim, 4
Hamburg, 52
Konigsberg, 8
St. Vincent, 12
Christiansund, 10
Turpentine—
St. Vincent, 2 dms.
St. Petersburg, 30 brls.
Varnish—
Antwerp, 1 ck. 1 cs.
Christiania, 4
Danzig, 1
Gothenburg, 3
Ghent, 1
Hamburg, 2
Stockholm, 1
Waste Salt—
Amsterdam, 20 brls.

GLASGOW.

Week ending June 2nd

Ammonium Carbonate—
Stockholm, £8
Ammonium Sulphate—
Kobe, 19 t. 16 c.
Rotterdam, 50 18
Demerara, 179 10¾
Trinidad, 153 17
Samarang, 134 19
Sourabaya, 218 19¾
Riga, 29
Bleaching Powder—
Calcutta, 86 t. 18¾ c.
Melbourne, 12 ¾
Bone Meal—
Trinidad, 4 t. 9 c.
Boracic Acid—
Kobe, £38 11s.
Borax—
Rotterdam, £16
Yokohama, 67
Carbolic Acid—
Bombay, £48
Castor Oil—
Santos, £31
Caustic Soda—
Dunedin, 4 t. 5¾ c.
Melbourne, 10
Coal Products—
Aniline
Calcutta, £42
Benzol
Rotterdam, £640
Creosote Oil
Christiania, £120
Danzig, 64 t. 9 c.
Russia, 283
Naphtha
Paris, £63
Pitch
Italy, £155
Danzig, 102 t.
Hamburg, 10 13 c.
Genoa, 285
Russia, 240
Tar
Danzig, 312 t. 12 c.
Russia, £573
Tar Oil
Antwerp, £100
Tar and Pitch
Calcutta, £196
Toronto, 23
Antwerp, 227
Bombay, 200
Copperas—
Bombay, £20
Copper Sulphate—
Bordeaux, 4 t. 4½ c.
Mauritius, 509 5¾
Dried Blood—
Paris, 22 t. 8¾ c.
Farina—
Antwerp, £35
Melbourne, 31
Fustic Extract—
Montreal, £21
Gelatine—
New York, 5,400 lbs.
Guano—
Barbadoes, 25 t.
Lead Nitrate—
Rouen, £24
Linseed Oil—
Mauritius, 1 t.
Logwood—
Paris, £34 7s.
Logwood Extract—
Montreal, £68
Magnesia—
Adelaide, £21
Manganese (Recovered)—
Rotterdam, £120
Manganese Oxide—
New York, £1'0
Nitric Acid—
Mauritius, qty.
Paint—
Delagoa Bay, £62
Painters' Colours—
Adelaide, £437
Dunedin, 160
Hiogo, 22
Melbourne, 236
Shanghai, £22 5s.
Singapore, 33 4
Yokohama, 47 4
Rotterdam, £6
Colombo, 26
Demerara, 28
Bombay, 35
Fremantle, 177
U.S.A., 414
Sourabaya, £25 11s.
Paraffin Wax—
Italy, £727
Pt. Elizabeth, 154
Christiania, 160
Danzig, 5 t. 1 c.
Stockholm, 160
Rouen, 69
Sicily, 45
Nantes, 96
Odessa, 79
Russia, 350
Potassium Bichromate—
Antwerp, £391
Melbourne, 73
Yokohama, 136
Rouen, 887
Salt—
Mauritius, 330 t.
Soap—
Bombay, 2 t. 5¾ c.
Sodium Bichromate—
Antwerp, 2 t. 9½ c.
Rouen, 25 19
Starch—
Rotterdam, £70
Sulphuric Acid—
Colombo, £35
Madras, £34 10s.
Varnish—
Rouen, £26
White Lead—
Puerto Cortes, £20

TYNE.

Week ending May 28th.

Alkali—
Copenhagen, 1 t. 13 c.
Rotterdam, 31 12
Riga, 8 1
Gothenburg, 1 15
Anthracene—
Rotterdam, 30 t. 16 c.
Antimony—
Rotterdam, 2 t. 10 c.
Gothenburg, 1
Barium Binoxide—
Antwerp, 1 t. 12 c.
Barytes Carbonate—
Copenhagen, 5 t.
Hamburg, 8
Riga, 10
Barytes Sulphate—
Genoa, 10 t. 5 c.
Bleaching Powder—
Antwerp, 30 t. 8 c.
Copenhagen, 12 1
Rotterdam, 12 2
Bergen, 7 16
Trondhjeim, 8 2
Gothenburg, 95 13
Odense, 1 4
Riga, 20 2
Christiania, 5 2
Bones—
Hamburg, 10 t.
Carbolic Acid—
Odense, 9 c.
Caustic Soda—
Aalborg, 4 t. 7 c.
Copenhagen, 25 4
Gothenburg, 2 18
Litharge—
Hamburg, 1 t. 1 c.
Rotterdam, 3 3
Riga, 28 3
Magnesia—
Hamburg, 12 c.
Naphthaline—
Riga, 43 t. 5 c.
Paint—
Rotterdam, 6 c.
Gothenburg, 6
Painters' Colours—
Milan, 1 t. 7 c.
Antwerp, 15
Salt—
Cape Town, 486 t. 12 c.
Soap—
Pomaron, 3 c.
Soda Ash—
Gothenburg, 54 t. 5 c.
Sodium Sulphate—
Copenhagen, 66 t. 12 c.
Christiania, 100
Gothenburg, 5 8
Aalborg, 2 10
Sulphur—
Christiania, 50 t.
Gothenburg, 200 bgs.
White Lead—
Archangel, 1 t. 12 c.
Hamburg, 1 1
Witherite—
Riga, 25 t.
Zinc Oxide—
Archangel, 10 c.

GOOLE.

Week ending May 25th.

Alkali—
Ghent, 1 ck.
Coal Products (*otherwise undes.*)
Boulogne, 172 cks.
Ghent, 2
Rotterdam, 77 1 cs.
Dyestuffs (*otherwise unaescribed*)
Ghent, 52 bgs. / 5 cks.
Hamburg, 20
Logwood—
Hamburg, 11 t.
Manure—
Ghent, 490 bgs.
Painters' Colours—
Boulogne, 13 cks. 2 pks.
Hamburg, 38 cs.
Pitch—
Antwerp, 350 t.

GRIMSBY.

Week ending May 28th

Chemicals (*otherwise undescr.*)
Antwerp, 18 pks.
Dieppe, 5 cs.
Hamburg, 9 kgs.
Rotterdam, 20 dm.
Coal Products (*otherwise und.*)
Antwerp, 5 brls.
Dieppe, 98 cks.
Hamburg, 6 crts. 51 pks. / 88 cs. 1 hd.
Rotterdam, 12 btls.
Painters' Colours—
Antwerp, 10 cks. 5 cs.
Hamburg, 16 60 pks.
Malmo, 2 dm.
Rotterdam, 1 kg. / 4 cks.

PRICES CURRENT.

WEDNESDAY, June 8th, 1898

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are f.o.r. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids :—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
„ Glacial	„		37	6
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80°Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3¼
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	2
Arsenic, white powdered	nett per ton	17	10	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	5	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	5	0
„ „ (grey) Hull	„	9	2	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	36	10	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	9
Barium Chloride	per ton	6	17	6
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes :—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	11½
„ 50/90	„	0	1	0
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	4
Crude Naphtha 30 % @ 120° C.	„	0	0	5½
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	2	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
Copper	per ton	50	17	6
„ Sulphate	„	16	0	0
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	27	0	0
„ (distilled S.G. 1250°)	„	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	15	0	0
„ Litharge Flake (ex ship)	„	17	10	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	10	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	12	6
„ „ (grey) (ex ship	„	7	10	0
Magnesium (ribbon and wire)	per oz.	0	2	[illegible]
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	8
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	15	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	1	8
Naphtha (Wood), Solvent	„	0	2	7
„ „ Miscible, 60° O.P	„	0	4	0
Oils :—				
Cotton-seed	per ton	17	5	0
Linseed	„	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3½
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	4
„ Permanganate	per cwt.	3	2	6
„ Prussiate Yellow	per lb.	0	0	5½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	3½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „	4	0	0
„ „ (Alkali) 58 %	„ „	4	2	6
„ „ (Soda Crystals)	„ „	2	5	0
„ Acetate (ex-ship)	„	11	5	0
„ Arseniate, 45 %	„	13	0	0
„ Chlorate	per lb.	0	0	3¾
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda)(f.o.b.)	net pr. ton	8	5	0
„ „ (74 % Caustic Soda)	„ „ „	8	0	0
„ „ (70 % Caustic Soda)	„ „ „	7	2	6
„ „ (60 % Caustic Soda)	„ „ „	6	2	6
„ „ (pure liquor 90° Tw.)	„ „ „	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Prussiate	per lb.	0	0	5¼
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	1	5	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	7	0
(Roll Brimstone)	„	6	3	9
„ Brimstone : Best Quality	„	4	13	9
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	22	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	71	15	0
Zinc (Spelter)	„	19	10	0
„ Chloride (solution, 100° Tw.)	„	6	0	0
„ Sulphate, Crystal	„	6	7	6

THE

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AND

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CURRENT TOPICS.

MATCHES WITHOUT YELLOW PHOSPHORUS.

JUST now, when so much interest is evinced concerning the difficulties and dangers of manufacturing matches with yellow phosphorus, on account of its tendency to develop necrosis, we are scarcely surprised to receive an official notice from the Belgian Legation, announcing a prize for the manufacture of matches without yellow phosphorus.

There is nothing very new in the fact of a prize being offered. For years chemists and inventors have been trying to produce a dipping paste which would answer all ordinary purposes, and yet contain no yellow phosphorus.

The Belgian Minister of Industry and Labour, however, once more provides a stimulus to inventors by offering a prize of 50,000 francs for such a paste, and by so doing invokes the aid of all scientists, as the competition is to be international.

Full particulars can be obtained from the Legation in London, but the conditions may be briefly stated as follows. The paste must resist reasonable friction, entailed in the manufacture of the matches, and the components must not give off emanations calculated to injure the workpeople. The finished matches must withstand ordinary temperatures, atmospheric moisture, and be chemically stable. When struck, they must not scintillate, or give off injurious fumes, and preference will be given to a paste which does not contain poisonous ingredients. The matches must ignite by friction on all ordinary surfaces, including cloth, but must be able to withstand the friction liable to be generated by being carried loose in the pocket, and in the usual course of transport. The competition remains open until January 1st, 1899.

We welcome the proffered prize, and trust it may further the discovery of the match manufacturers' long deferred El Dorado; but the experience of the past compels us to be dubious, rather than over-sanguine, as to the probable result of the competition.

THE INCONGRUITIES OF REFORMERS.

There is something delightfully, not to say ludicrously, incongruous about the majority of quasi-philanthropists and reformers who labour on behalf of the public weal.

Take, for instance, the cases of ice-cream and lamp oil. We agree entirely with the desirability of suppressing the sale of loathsome ice cream, made from materials of doubtful origin, and purveyed in glasses "cleansed" in filthy water. This matter can command such stirring head lines as "A Standing Public Danger" in the evening papers, and quite right, too. We have thrown our mite into the scale from time to time on the side of reform.

We have also pleaded long for the removal of another "public danger," which is of an even more pressing nature, because every day brings further evidence of the dangers which attend the existence of the evil—explosive lamp oil.

Just lately the press have given some attention to the dangers of low-grade lamp oil, but there is something more

attractive in endeavouring to prevent the "about-to-be" than in fighting the common-place "happens-every-day." The former savours of the prophetic; there is nothing heroic in the latter.

Yet in the face of all that has been done, it seems probable that while the London vestries are busy promoting a Bill, sending delegates to the Home Secretary, and suggesting special legislation through the Local Government Board in order to prevent the sale of doubtful ice cream (which may prove fatal to somebody some day), the whole army of custodians of public safety will sit with folded hands while the Petroleum Commission issues a report which will entail the deliberate sacrifice of hundreds of lives yearly, until the Government can be persuaded to appoint another Committee of Inquiry. This event is likely to be remote, as it has taken the present Commission between two and three years to arrive at conclusions slightly more illogical than those deduced at the last inquiry.

If it were only more generally understood on what ridiculous grounds the present report is based, it would defeat itself. Mr. Jesse Collings's chief objection to making the ignition point of lamp oil reasonably safe is that it would be a hardship to those who use petroleum for industrial purposes. This is a matter we dealt with, and explained the fallacy of, months, in fact almost years, before Mr. Collings began to serve his apprenticeship to the oil question, and the *Star* is again opportunely exposing the remarkable ignorance which must exist in the mind of anyone who seriously entertains such an argument.

The trades Mr. Collings is so anxious to protect use petroleum spirit, which has been subject to the Petroleum Act for years. If the flash point of lamp oil were raised to 2000° F. it would not impose any hardship; on the contrary, it would tend to cheapen petroleum spirit, as it would have to be refined out of the lamp oil and sold as spirit, thus increasing the production, and probably lowering the price. The only way Mr. Collings can remove or obviate any "hardship" these manufacturers may endure will be by way of repealing the Petroleum Acts *in toto*.

Another curious point is that he should be so anxious to try and protect the few who use petroleum spirit (and so indirectly protect the specially dangerous oil of the S. O. Co.) at the expense of the great number of manufacturers engaged in the lamp industry.

It is not too late even now for public reformers to interest themselves in trying to defeat an attempt to legislate on such illogical lines as we have just indicated. We think they might with safety leave the ice cream "may be" alone for a little while, and give their undivided attention to the rampant danger which "is." We commend to their notice Bret Harte's practical and pointed lines:—

If of all the words of tongue or pen
The saddest are "it might have been,"
How sad are those we daily see:
"It is, but hadn't ought to be!"

Decently Safe Lamp Oil.—The *Daily Chronicle* says: "A communication which reaches us from America in protest against the low class oils sold by the Standard Oil trust gives us some facts we did not realise before. The Trust will pay in dividends for the past year, on their own showing, no less than 31,692,000 dollars; and they are declared to have accumulated within the last twenty-five years no less than a thousand million dollars of wealth. No wonder they can in most places control either the law or the administration of it, as it is asserted that they control the Petroleum Committee of the New York Exchange, and a large fraction of the entire railway mileage of the United States *Happily we are not under their thumb here;* but it is high time we showed our independence of them by doing our obvious duty in the way of insisting on decently safe lamp oil." [The opinion expressed in the words we have italicised reveals how terribly ignorant even the *Daily Chronicle* is on the influences at work in this country to maintain the sale of the sudden-death naphtha-petroleum, which the S.O. Co. make their millions out of.—Ed. *C.T.J.*]

IMPORTS AND EXPORTS FOR MAY.

The Board of Trade returns for the past month are not satisfactory. The *imports* of chemicals were less, while the exports of alkali show a serious falling off. The U.S. only took 67,000 against 230,000 cwt. in the same month last year. Manures are in quantity, but lower in value.

IMPORTS OF FOREIGN AND COLONIAL PRODUCE.

Articles.		Quantities. 1897.	1896
Margarine	Cwt.	75,281	74
Copper Ore and Regulus	Tons	9,203	11
Pyrites	,,	52,423	62
Tin	Cwt.	34,654	37
Alkali	,,	25,343	19
Brimstone	,,	40,590	20
Dyes, Coal Tar	£.	57,592	70
Tar	Barrels	5,635	6
Saltpetre	Cwt.	38,672	24
Petroleum	Gall.	13,414,437	12,785
Turpentine	Cwt.	1,526	16
Guano	Tons.	2,112	1
Nitrate of Soda	,,	19,393	17
Paraffin Wax	Cwt.	49,071	52
Rosin	,,	74,516	126
Tallow and Stearine	,,	175,218	173
Oil Seed Cake	Tons.	35,115	27
Wood Pulp	,,	34,318	29
Borax	Cwt.	—	

EXPORTS OF BRITISH AND IRISH MANUFACTURES.

Articles.		Quantities. 1897.	1896
Alkali	Cwt.	501,695	341
Cement	Tons.	41,038	25
Coal and Coke	,,	3,502,240	2,691
Copper, all kinds	Cwt.	80,495	84
Iron and Steel	Tons.	343,515	293
Chemical Manures	,,	23,670	25
Oils, seed	,,	5,490	4
Salt	,,	81,458	79

The New Conveyor Co., Ltd.—The New Conveyor Co., Smethwick, Birmingham, have purchased over three thousand yards of land for further extensions of their chainbelt and elevator partments. When the new works were started at Smethwick, three years ago, they covered fourteen hundred square yards; now occupy sixteen thousand yards of freehold land. The work are substantial and commodious, and well equipped with m engineering plant.

Report of the Committee on Petroleum.—Mr. Jesse Col M.P., chairman of the Select Committee on Petroleum, has rec many communications and criticisms, based on what he describ absolutely speculative and misleading paragraphs, concerning the n of the report of this committee. Mr. Collings states that his dra port remained exclusively in his own possession until Tuesday when its purport was privately communicated to his colleagues o committee, who, for the first time, entered upon its conside yesterday.

Failure of a Drysalter.—The examination of Derbyshire M formerly a chemical merchant and drysalter, carrying on busin Dickinson-street, Manchester, was continued on Monday by Mr. E on behalf of the trustee, Mr. G. W. Rhodes, barrister, appearing f debtor.—The debtor was questioned at great length as to indi transactions, and generally he attributed his losses to fluctuatio the market. He admitted that in many cases goods were hypothe to the bank. He could not give particulars of those hypotheca because he had not the dates before him. The Official Receive the debtor's object was just to keep the ball rolling as long as he – Mr. Edgar: Clearly so, although he objects to its so being put.- Official Receiver: It is the true mode of putting it; and he cann out of it.—The Debtor: It is what other people do. It is the on way of financing in Manchester.—The Official Receiver: It is a objectionable way.—The debtor said he had found that it was b him.—The Registrar: And so it is for the creditors.—Proceedin debtor said he had entered into various contracts for the sup chemicals for forward delivery, the market prices of which showed siderable variations. He had some to be delivered in 1900.- debtor was further examined by the Official Receiver and b Rhodes, and the Official Receiver said that the examination migh be closed.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Organic Products from Seaweed. A. Krefting. 12,275. May 31.
Organic Products from Seaweed. A. Krefting. 12,277. May 31.
White Lead Chambers. Saxby's White Lead Syndicate, Ltd., and H. G. Percival. 12,384. June 1.
Apparatus for Treating Seaweed. A. Krefting. 12,416. June 2.
Separating Hard and Soft Spelter. W. Skaife. 12,436. June 2.
Aluminium Alloys. C. Heap and T. Ody. 12,481. June 3.
Sludge or Sewage Tanks. R. and J. and H. Wilder. 12,489. June 3.
Tank Wagon for Carbonic Acid. J. Quain. 12,501. June 3.
Manufacture of Compounds for Making Drying Oils. S. Rosenblum and The Commercial Ozone Syndicate, Ltd. 12,508. June 3.
Drying Apparatus. T. P. Richards. 12,543. June 4.
Purifying Sewage, etc. H. A. Hobson. 12,602. June 4.
Explosives. C. E. Bichel. 12,613. June 4.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

Process and Apparatus for Obtaining Barium Oxide and Barium Hydroxide from Barium Carbonate. W. Feld, Villa Feld, Linz a/Rhine. Eng. Pat., 13,519. June 1, 1897.

The difficulty of decomposing barium carbonate by roasting is attributed by the inventor to the presence of even minute quantities of barium hydroxide, formed from the moisture in the fuel. The hydroxide causes the oxide to fuse, and so prevents further decomposition. In order to avoid this the carbonate may be heated in retorts which are not "acid"—*i.e.*, do not contain excess of silica. If heated in the usual form of ring kiln, the fuel employed is anthracite or coke, which are poor in hydrogen, and the air admitted to promote combustion is dried by being passed over quicklime, or roasted barium carbonate which has been cooled sufficiently to prevent fusion when the hydroxide is formed. There are seven drawings, showing two methods of constructing kilns. By taking such precautions it is stated that 96 % of the carbonate can be decomposed by direct roasting, as opposed to 40 or 50 % by the old system.

Improvements in, and in Apparatus for, the Manufacture of Artificial Ice. A. M. Clark, 53, Chancery-lane, London (communicated by the Marquis d'Osmond, 10, Rue Louis Grande, Paris). Eng. Pat., 15,523. June 29, 1897.

A series of moulds are fitted at the bottom of a tank of water so as to expose them to the action of a refrigerating fluid which circulates through a false bottom. When the contents of the moulds have congealed into blocks of ice, the blocks are thawed off by circulating a warm medium, when the blocks float to the surface and are removed. The moulds naturally re-fill themselves. There are twelve figures, showing various forms of moulds.

An Improved Mask or Inhaling Apparatus for Use in Noxious Atmospheres. Fried. and Franz Wanz, trading as O. N. Nachfolger, 29, Am. Graben I., Vienna. Eng. Pat., 30,032. Dec. 16, 1897.

A glass-faced mask is fitted to the chin and forehead, with an air cushion. A hood is also attached, in the pockets of which are lumps of caustic, which absorb the moisture and carbon dioxide exhaled, keeping the interior of the mask cool. A wiper is fastened to the glass face plate, so that any deposit can easily be removed. There are two pipes, fitted with inlet and outlet valves, one of which connects to a compressed oxygen cylinder, and the other to the caustic pouch. There are two figures.

Manufacture of Fibrous Material suitable for making Paper from Peat. K. A. Zschorner IV. Wohllebengasse No. 25, Vienna. Eng. Pat., 15,797. July 2, 1897.

The failure to produce a suitable fibre for paper-making from peat is attributed to the system of boiling the peat with the degumming and bleaching agents. By the patentee's process the peat is treated under pressure with a 2 % solution of caustic soda, at a temperature of 4° to 25°C. After removing the lye so formed, the peat is washed and bleached with a solution of calcium or sodium hypochlorite, testing not more than 2° Bé., at the same temperature and pressure used with the caustic. In this way it is claimed that a suitable fibre is produced.

Improvements in or Relating to the Treatment and Purification of Sewage and other Polluted Waters and Liquids. W. J. Lomax, 11, Fold-street, Bolton, and T. Aspinall, Woodland Cottage, Farnworth, near Manchester. Eng. Pat., 14,058. June 9, 1897.

The sewage, etc., is treated with lime at the rate of 500 to 4,000 lbs. of lime per million gallons. After precipitation, the effluent is charged with 1 to 10 grains of chlorine per gallon. The preliminary precipitation with lime, etc., may be omitted, and other halogens used *vice* chlorine.

THE USE OF BORACIC ACID IN BUTTER.

A DEPUTATION representing the Manchester, Salford, and District Grocers' Association, and introduced by Mr. Philip Whyman, waited upon a sub-committee of the Sanitary Committee at the Town Hall, Manchester, on Monday, to ascertain the views of the authorities upon the questions of the use of boracic acid as a preservative in foodstuffs. The deputation did not state a grievance, but, as Mr. John Williams, the president of the Association observed, "to avoid the possibility of a grievance as between the tradesmen of this city and the local authorities." They stated that they had no wish to shut their eyes to the fact that some medical officers of health took a very adverse view as to the use of boracic acid and other food preservatives, and in some districts prosecutions had taken place in regard to the sale of foods by retailers which had been cured or partially cured by the preservatives mentioned. It had been generally understood for more than twenty years, the deputation maintained, that borax or borax preparations were the most effective substitute for salt in curing meats or preserving butter, and whilst they desired to express no opinion as to the wholesomeness or otherwise of these preservatives the deputation pointed out that, as retailers and consumers of the mild cured goods, they had never known any ill effects to arise from their consumption. If it was the conviction of the authorities in Manchester that the use of these preservatives in food was injurious to the consumer, they had every desire to co-operate in taking measures against the possibly excessive use of boracic acid and other kindred substances. What they particularly desired was that no retailer should have his good name defamed, either by being penalised for serving goods which had given satisfaction to consumers for so many years and over the preparation of which goods he had no control, or that he should be placed in the undesirable position of defending the use of articles which he knew nothing about. In any case, it would most injuriously affect the distribution of goods if any sudden action were taken, and in the interests of all concerned—consumers, retailers, importers, and packers—it was desirable to arrive at some understanding in regard to the use or sale of goods containing the preservatives in question. If retailers were forewarned, the deputation stated, they might possibly protect themselves with warranties, but it seemed useless to worry packers or wholesale dealers if the use of these preservatives was held to be non-injurious.—The Chairman of the Committee (Mr. Fildes) and Mr. Alderman Walton Smith assured the deputation that the matter would have their serious consideration, and the latter gentleman observed that they would be guided to a great extent by their medical officer and city analyst. Similar deputations waited upon the Corporations of Birmingham and other large cities.

THE SALE OF POISONS.—A Bill for regulating the sale of certain poisonous substances has been introduced into the House of Lords by the Duke of Devonshire. It provides that butter of antimony, carbolic acid, chloride of zinc and its solution, cresylic acid, hydrochloric acid, nitric acid, sulphuric acid, sugar of lead, and other salts of lead, preparations of carbolic or cresylic acid or their homologues used as disinfectants, and containing more than 10 per cent. of any of them, and substances sold for the purpose of poisoning insects or vermin, shall be labelled with the name of the substance, the word "poison," and with the name and address of the person selling the substance.

LEAD POISONING IN THE POTTERIES.—A special meeting of the North Staffordshire Chamber of Commerce was held at Hanley on Wednesday to consider the amended special rules under the Factory and Workshop Acts. It was attended by representatives of all the leading pottery manufacturers of the district. Mr. W. Woodall, M.P., sent a long letter, in which he said it was extremely important that the experience of Continental potteries and the action of Continental Governments should be ascertained and reviewed. Several members of the Chamber defended pottery manufacturers against the censure of the daily press. Mr. J. W. Bishop, who criticised at length an article in the *Manchester Guardian*, said in thirty-four years' experience he had never heard of a case of blindness through lead until the recent agitation. Mr. George Leason said the medical practitioners appeared to make every case they possibly could a lead poisoning case. After a prolonged discussion on the attitude of the press, the Chamber proceeded to consider the rules in private. The rules as a whole were approved, but it was suggested that "or other means" should be inserted in rule 9 so as to admit an alternative to fans.

A NEW ICE PLANT AT NEWCASTLE.

THE Pulsometer Engineering Co., Ltd., of Nine Elms Iron Works, London, S.W., have recently built and erected at the Fish Quay, North Shields, one of their improved ammonia compression plants for turning out 30 tons of ice per day, for the use of the steam trawlers and smacks. The plant has been built to the order of the Northern Counties Ice Co., of Newcastle, this being the second plant built by the contractors for this Ice Co., the former plant, situated on the Quayside, Newcastle, being capable of turning out 25 tons of ice per day, and at the same time keeping cool about 100,000 cubic feet of storage space. The present factory is placed in a most advantageous position, being alongside the jetty and quite close to the trawlers. Owing to the limited space a special arrangement has been adopted. The ice tanks, instead of being placed, as usual, on the ground floor, are carried on heavy joists, resting on cast iron columns, which are further prolonged to carry the rails of the travelling cranes.

The ice tanks extend over the engine room—this part of the tank being thoroughly insulated with silicate cotton and match boarding. The other part of the congealing tank is over the ice store, and the lower portion of the tank is left exposed, and serves to keep the ice store cold. The plant has now been working for some time with most satisfactory results, the guaranteed output being most easily exceeded. What strikes one, on an inspection of the factory, is the extreme simplicity and strength of everything, the usual marvellous (and generally useless) forest of pipes, valves, &c., being conspicuous by its absence. The boiler house contains two marine type boilers, each of which is capable of driving the plant.

The boilers are constructed under Lloyd's rules, and have a working pressure of 110lbs per square inch. In the boiler house is fitted one of the contractors' heavy pattern duplex pumps, a hot well tank, and a grease extractor. The chimney is of wrought iron, secured to the gables of the building, and of sufficient height to ensure a first-class draught. The ammonia compression part of the plant consists of two double-acting pumps, driven tandem, by a cross compound condensing engine, the common stroke being 30 inches. The compressers are of the contractors' well known double acting type, fitted with their special arrangement of valves, which work without springs or buffers of any description. The bore rods and pistons of these pumps are lapped up to perfection, resembling a huge Whitworth gauge, rather than a pump. The suction and discharge valves are made from steel forgings, and a neat arrangement is provided whereby the contents of the condenser may be pumped into the refrigerator, or *vicé versa*. The engines are of the plain type, with extra large surfaces, and are fitted with lubricators for continuous running. A Meyer's expansion gear is fitted to the high pressure cylinder. The air-pump, which is of the vertical single acting type, is driven by means of a weigh shaft from the low pressure engine. The condenser is of ordinary surface type, with brass tubes and tube plates. An auxiliary engine has been fitted to drive the shafting, crane, and water pumps, when the main engine is standing. The water pumps, which are also in the engine room, are of vertical double-acting type, placed in A frames, and complete with first and second motion shaft. These pumps draw from the Tyne, and discharge their water into the ammonia condenser tank, the overflow from the latter passing through the engine surface condenser.

In the engine room are also placed two neat teak lagged ammonia receivers, into which the return gas from the refrigerators passes. Here all dirt, oil, and weak liquor is deposited, and by means of a new arrangement of the contractor's, so that all oil, etc., can be easily removed. This arrangement has proved most satisfactory. The bottom of the gas condenser tank is on the same level as the top of the ice tanks, and consists of a large wrought iron tank, divided in the centre, so as to divide the plant into two separate machines, in case it is desired to only run half the plant; the same idea has been carried out in the ice tanks and refrigerators. The condensers are of the contractors' usual U type, the ends of the U pipes connecting into forged steel junction blocks. The end of the tank is removable in case it is desired to replace a tube, and as salt water has to be used for condensing, the tubes are galvanised.

The refrigerators are placed in the end of the ice tank, and are of the oblong coil type, the circulation of the brine being effected by means of two powerful horizontal centrifugal pumps. The moulds, which are of galvanized steel, hold each about 2 cwts., the total weight of ice in all the moulds when frozen being about 90 tons.

The crane, which is of the over-head power travelling type, extends from one side of the house to the other, and has two travelling carriages, so as to lift two sets of moulds at a time. From the carriages are suspended two lifting frames, which, being lowered on to a set of moulds, will, by the movement of one handle, engage the full set. The moulds after lifting are run up to the thawing tank, thawed off, placed in a tippling frame, and the ice shot out; they are then, on the pulling of a chain, filled with fresh water. This water comes from a storage tank, containing a day's supply, placed on the roof. On this floor is placed another auxiliary engine for driving the crusher, and also a conveyor, which conveys the crushed ice across the jetty into a shoot, fitted with an up and down movement, so as to allow for various states of the tide, and thence direct into the holds of the trawlers. This shoot is shown in the illustration beneath, which also clearly indicates the convenient proximity of the plant itself.

BORIC ACID IN MILK.—In the course of a prosecution at Chester, on Thursday, the Town Clerk stated that according to the best medical authorities the use of boric acid was gradually being found to be really dangerous. It is about time this point was settled for good.

Parliamentary Jottings.

THE PATENT LAWS.

In the House of Commons, on Monday, Sir J. Leng asked the President of the Board of Trade whether, in view of the surplus on the Patent Office accounts for the year 1897, amounting to £111,299, he would consider the expediency of appropriating a portion of that excess of income to the cost of such preliminary examination for novelty of inventions as was made by the German Patent Office; and whether some rule could be adopted to prevent applicants who had been refused patents in their own country obtaining them in the United Kingdom.

Mr. Ritchie: The hon. member's question touches a very important matter which is receiving my careful attention. It is by no means free from difficulty, as is evidenced by the fact that it was discussed at the recent meeting of the International Association for the Protection of Industrial Property, and the discussion was adjourned for a year as there was no probability of general assent to any proposal with respect to it. The subject matter of the second paragraph of the question is also receiving my consideration. It is obvious that as long as the Patent Laws of different countries are different, patents must be granted in some countries for inventions for which they will not be granted in others. I am glad to say, however, there is a constant tendency to assimilation.

YELLOW PHOSPHORUS MATCHES.

Mr. Buchanan (Aberdeenshire, E.) asked the Secretary to the Treasury to undertake that no matches containing yellow phosphorus shall be used by any public department, and that any contract with Messrs. Bryant and May or other firm for the supply of matches shall be forthwith terminated.

Mr. P. O'Brien (Kilkenny) asked the First Commissioner of Works whether the matches in use in the House of Commons are supplied by Messrs. Bryant and May; and, if so, whether, in view of the recent revelations showing that this firm were convicted of a breach of the Factory Act by which certain of their employees were poisoned, he would see that matches made by some other British or Irish manufacturer are used in the House of Commons instead of Bryant and May's.

Mr. Akers Douglas (Kent, St. Augustines).—Perhaps I may be allowed to answer at the same time the question addressed to my right hon. friend and the question standing in the name of the hon. member for Kilkenny. No matches containing yellow phosphorus are provided under the contract for matches made by my office for the Houses of Parliament and various departments, which is held by Messrs. Bryant and May. The only contract with that firm is for safety matches, which are guaranteed to contain none of this chemical, and which are, I am assured, non-poisonous and harmless to those employed in their manufacture. I understand that the recent conviction obtained against Messrs. Bryant and May was in respect of the manufacture of a cheaper (or strike anywhere) match, which matches are not included in the contract. I may assure hon. members that I am making inquiries actuated by the same views as hon. gentlemen who have asked these questions, and I will take care that in future contracts the specification I have mentioned is included.

ANTISEPTICS IN IMPORTED MILK.

Mr. J. H. Johnstone asked the Under Secretary for Foreign Affairs if any further report had been received from Mr. Gurney, Her Britannic Majesty's Consul at Cherbourg, with regard to the import of fresh milk from that district by Messrs. Lepont and Son, and as to the nature of the antiseptic said to be employed by them to preserve the milk; and, if any such information had been received, when would it be published.

Mr. Curzon said a further report had been received from Mr. Gurney and communicated to the Board of Agriculture and the Local Government Board. The whole was not suitable for publication, but the more important parts would be published in the *Board of Trade Journal*.

LEAD POISONING.

On Tuesday, in reply to a question from Mr. Tennant (Berwickshire),

Sir M. W. Ridley said: As the hon. member is no doubt aware, the certifying surgeon has to report on all cases of lead poisoning reported to him and not only in cases of death from this cause. His reports go to the superintendent inspector, in this case, at Birmingham. I have not yet received information to enable me to answer further at the present time.

In answer to a question from Mr. Woodall (Hanley),

Sir M. W. Ridley said when he received the reports he would endeavour to give the House such information as he could

COMPULSORY LICENCES UNDER THE PATENT ACT.

Captain Phillpotts asked the President of the Board of Trade whether he had considered the report made by the referee appointed to inquire into the matter of Levinstein *v.* Farwerke, Vormals Meister, Lucius, and Bruning; and whether, on its consideration, and on a general review of the way in which foreign patentees occasionally availed themselves of the monopoly conferred by a patent in this country, and of the difficulties with which British manufacturers had to contend in order to obtain licences under the patents of foreigners not *bona fide* working them in this country, he was prepared to propose any legislation on the subject or to adopt some other means of removing the grievance complained of.

Mr. Ritchie: The report referred to is still under consideration. I am not prepared at present to make any statement as to legislation or to admit that the existing law as to compulsory licences cannot be made to work satisfactorily; but I can assure my hon. friend that I am sensible of the importance of the question in its relation to the rights and obligations of patentees, both British and foreign, and I shall carefully watch the working of the provisions of the Patent Act.

Mr. Cawley asked when it was likely the report would be presented.

Mr. Ritchie replied that the suggestions in it would require great consideration, and he hoped the decision of the Board of Trade would not be delayed longer than necessary.

Reports of Companies.

RUSSIAN PETROLEUM CO., LTD.

An extraordinary general meeting of the shareholders of the Russian Petroleum and Liquid Fuel Company, Limited, was held recently at Winchester House, Old Broad-street, E.C., for the purpose of confirming the resolution passed on the 10th ult. for the division of the shares. The Hon. Evelyn Hubbard, M.P., presided.

The Chairman said: Before putting the resolution I think it well I should say a few words to you on the subject of our title. You are aware that the board have for several months past been directing their best attention towards obtaining legal recognition for this company from the authorities at St. Petersburg. At the time this property in Baku was acquired no such detailed explanation of the special laws governing the acquisition of oil properties in Russia had been given as that which the board received on the 26th of last month from Mr. Tanischeff, the commercial representative of the Russian Government in London; he was also good enough to favour me with a letter on the subject, and it is a letter which I would commend to any of you who are interested in this question. At the time the acquisition was made the best legal advice was taken upon every point; but as soon as it came to our notice that, in the opinion of the authorities at St. Petersburg, there might be some informality in our procedure, we put ourselves in communication with the highest authorities, and I have to-day the pleasure of informing the shareholders that all difficulties in the way of our obtaining direct recognition have been practically overcome, thanks to the very great kindness and courtesy with which we have been met by the Russian Ministry. I hold in my hands a private letter from the Minister of Finance which he was good enough to direct to me last week, and which is couched in the most kindly terms. At the termination of that letter he says: "I will not fail to communicate with the authorities concerned with a view to obtaining permission for the company organised by you to operate in Russia and to carry on the naphtha business you have acquired from Mr. Tagieff." I should here take the opportunity of bearing witness to the extremely frank, businesslike, and straightforward way in which we have in all these negotiations been met by the authorities at St. Petersburg. I will ask you to take it from me that in the opinion of this Board you may rest perfectly satisfied that in due course we shall obtain a complete and

PERFECT TITLE

to hold and carry on exploitation of oil lands in Russia, and the Tagieff business in particular. That is all I have to say on the question of title, and I can only add what has already been stated from this chair, that whenever shareholders wish for any information whatever on the affairs of the company they will do best if they go direct to the secretary, who is empowered and instructed to give them full particulars. I will now propose the confirmation of this resolution: "That each of the £10. preference shares in the company's capital be divided into 10 shares of £1. each, to be called preference shares, and each of the £10. ordinary shares be divided into 10 shares of £1. each to be called ordinary shares, and that the preference and ordinary shares resulting from such division shall be respectively numbered from 1 to 600,000 and 600,001 to 1,200,000 inclusive. Sir James Kitson, M.P., seconded the motion.

Surgeon-General de Renzy asked the chairman if he would be good enough to state how far the results obtained compared with the very modest expectations which the prospectus led them to look for when the company was formed. The year ended March 31, 1897, was a record year, and it produced 45,000,000 poods, giving a profit of about £395,000. He should be glad to know how the results obtained so far compared with those results.

The Chairman said he had pleasure in informing the shareholder that the anticipations formed from last year had been surpassed. The 45,000,000 poods for the twelve months of last year compared with the present figure—which was the outcome of eight months—of approximately 58,000,000 to 59,000,000 poods. That, translated into English was roughly 950,000 tons, and he thought, without being a prophet, that on the completion of their year they would have made a record yield of 1,000,000 tons at any rate.

Mr. Richards asked whether the directors intended to apply for a settlement on the vendors' shares?

A Shareholder asked if the Board would let the shareholders know, by circular or otherwise, when they finally got the consent of the Russian Government to recognition; also, in view of the successful character of the company's proceedings so far, whether it would be possible to pay another interim dividend.

Another Shareholder inquired whether it was anticipated that any payment would have to be made to the Russian Government in reference to the recognition of the company's title.

The Chairman, in answer to the inquiries, said as regarded the vendors' shares, it was not usual to apply for a settlement until after a year from the formation of a company, and the Board did not propose to depart from that usage. As to the consent of the Russian Government to their recognition, shareholders might be perfectly certain that as soon as the board had it it should be made known—that was the final consent. He considered they had the practical consent already. As regarded an interim dividend, this year had only been a period of ten months to them, and the directors certainly did not propose at that moment to anticipate the final distribution up to the end of August; but they trusted that the dividend then would be a satisfactory one. No fees were payable to the Russian Government—only the legal stamps and the usual charges in connection with the business.

The resolutions were unanimously agreed to, and the proceedings then closed.

NEW JULIA NITRATE CO., LTD.

An adjourned extraordinary general meeting of the New Julia Nitrate Company, Limited, was held last week at Winchester House, Old Broad-street, E.C., Mr. T. M. Thackthwaite presiding. The Chairman said the meeting was called for the purpose of considering certain resolutions for the purpose of reconstructing the company. He would ask Mr. Moutrie to explain the scheme of reconstruction put forward at the previous meeting. Mr. Moutrie said he did not think it was necessary to again go into the details of his scheme, and suggested that the committee of shareholders appointed at the last meeting should now present their report. Mr. Parsons, on behalf of the committee of shareholders, said he and his colleagues had gone thoroughly into all matters in connection with the reconstruction, and had particularly considered the two points which they thought of vital interest—viz., the water question and the directorate. The committee did not consider the proposed lease of Germania Well was an advantageous one for the new company to take up, inasmuch as it was proposed that the lease should be terminable at six months notice on either side. The committee were also of opinion that it was not to the interests of the company that the future management should be in the hands of Mr. Moutrie and Mr. Abbott; they thought the number of the new directors should be four, that two should be representatives of the shareholders, and that one of the directors should be on the Board. ("No.") In conclusion, the committee considered Mr. Moutrie's scheme was one the shareholders could not accept, and suggested that another meeting should be called to consider some other scheme, which should embrace all the salient features of Mr. Moutrie's scheme, and all the recommendations of the committee. Mr. Smith, another member, criticised the proposed articles of association, and said under them the directors could actually, if they chose, sell the property without consultation with the shareholders. A long discussion ensued, in the course of which Mr. Moutrie said the reason of the opposition to his scheme from certain quarters was that certain gentlemen desired to come on to the Board and others were working on their behalf. He contended that if the company did not take over the Germania Well there was no other course but to liquidate. The resolutions for reconstruction were put and defeated. Mr. Moutrie demanded a poll, which was taken with the following result: For the resolutions, 94,643; against, 55,708. This not being a three-fourths majority, the resolutions were not carried.

PACCHA AND JAZPAMPA NITRATE CO., LTD.

The ninth ordinary general meeting was held on Monday, at Winchester-house. Mr. George A. Lockett, who presided, regretted that the directors were unable to place before the shareholders a more favourable statement of the year's working. The unsatisfactory result of their operations was due to the extraordinarily low prices of nitrate—the lowest ever recorded having ruled during the second half of the year; to heavy stoppage expenses, each oficina having been limited to three months' manufacture; and to the high cost of extracting the raw material or caliche, the grounds being very difficult and expensive to work owing to the depth at which the caliche was now found. After referring to various items in the accounts, he proceeded to explain the present position and prospects of the company. So far from the nitrate market having improved since their last meeting, it had fallen completely to pieces, so that they were no longer able to go on producing without loss. Beyond, therefore, working up their stock heaps they had suspended manufacture; their experience during the past 12 months having proved that, notwithstanding every economy, a selling price of 5s. 6d. must be obtained by this company to cover the cost of working their present grounds. With a new combination possibly this figure might be reached, but even then the small quota which would be assigned to them would never admit of dividends being paid on the existing capital. The company's funds were now entirely exhausted, and their bankers did not see their way to accommodate them any further. Meantime, certain unavoidable expenses were being incurred in London and on the coast which it was necessary to provide for. Apart from extraction, they were now able to make nitrate at oficina Jazpampa within two or three cents, he

believed, of the cost at the best oficinas on the Pampas. It was the high cost of extraction which put them out of the running; therefore, if the company was to continue producing it was indispensable to acquire new grounds and raise some working capital. The possession of additional grounds ought to place the company in a good position again, and with nitrate at anything like a satisfactory price there was every reason to hope that on a smaller capital dividends would be earned. To enable them to purchase new grounds—and there were some adjacent to each oficina which were available—reconstruction of the company was inevitable, and the directors suggested a scheme on the following lines. The present capital of the company was £360,000, divided into 72,000 shares of £5. each. If a scheme of reconstruction were adopted by the whole body of shareholders under which they accepted for each £5. share a share of £1. with 14s. paid up, funds would be rendered available which would enable the company to pay off its liability to the bank, to acquire new grounds adjoining Jazpampa, to fully equip the oficina with mules, to resume the manufacture of iodine, and to have a balance for working capital, the Paccha oficina remaining closed. If this or some similar scheme did not commend itself to the shareholders, he saw no alternative but an early liquidation. He concluded by moving the adoption of the report, which was seconded by Mr. Gamble North. A discussion followed, in the course of which the chairman, in reply to Mr. Aikman, said the Board would be pleased to confer with two or three shareholders on the present position of affairs. Mr. Blundell thought the scheme, as outlined by the chairman, would not meet with acceptance by the shareholders. The motion was agreed to, and it was afterwards decided to convene a further meeting to consider the question of the reconstruction of the company.

THE SEPTIC SYSTEM AND THE LOCAL GOVERNMENT BOARD.

THE Local Government Board have decided to give their approval to the scheme submitted to the Exeter City Council by Mr. Cameron, the city surveyor, for disposing of the sewage of Exeter by the Septic system at an estimated expenditure of £40,000.

In their letter to the Exeter City Council, the Local Government Board state "The Board have directed their inquiries with the view of determining two questions. In the first place, they desired to ascertain whether the final effluent obtained by the septic process was uniformly of such a character as to permit of its discharge into the river without further treatment on land. If not, was the process a sufficient preliminary to the treatment of the sewage on land; and was the land possessed by the Exeter City Council suitable in quantity and quality? The Local Government Board have come to the conclusion that, if the Septic process be adopted, a further treatment of the sewage on land will still be required previous to the effluent being discharged into the river. The Board, however, are not unwilling to accept, by way of experiment, the adoption of the process recommended by the City Surveyor as a method of treatment preliminary to further treatment on land. The Local Government Board will approve of the scheme on the distinct understanding that the City Council, in adopting this system as an experimental substitute for the ordinary process of chemical precipitation, will accept the entire responsibility for the experiment, and will give an undertaking that, in the event of the process failing to give satisfactory results when applied to the sewage of the entire city, they will adopt in its place some process of treating the sewage with chemicals combined with artificial filtration. The Board understand that the tanks can readily be made available for use as part of such a system. With regard to the quantity of land required, the Board would point out that the Exeter City Council must possess themselves of land for treating the effluent equal to that which is required under schemes in which chemical precipitation and artificial filtration are adopted; that is to say, an acre for each 2,000 of the population. The Board will further require the Council to protect themselves from floods, and must therefore stipulate for flood tanks at Duck's Marsh and Belle Isle."

THE ATMOSPHERE OF CHURCHES.—In consequence of the complaints made as to the unhealthiness of the atmosphere of the parish church of St. George the Martyr, Southwark, and the alleged danger to the congregation owing to the condition of the crypt, in which it was stated bones were lying about the ground, the Public Health Committee of the St. George's Vestry have made investigations into the allegations. The committee, in a report to the Vestry, state that samples of the air both in the crypt and the church have been taken and submitted to Dr. Pakes, of Guy's Hospital. The result of the analysis of the air is to the effect that it is of normal quality as compared with other metropolitan churches. It has been decided to forward a copy of the report to the Home Office. [This may be so, but we object to the standard of comparison. Coal is no blacker than soot if you take pitch as a standard.—ED. *C.T.J.*]

Selected Correspondence.

NEW AUSTRIAN PATENT LAW.

To the Editor of the "Manchester Evening News."

Sir,—The new patent law in Austria we are now advised comes into force on the 7th January, 1899. This new law seems to be based on the German law, and is substantially the same; it constitutes a board of examiners at the Patent Office, who have power to grant or refuse patents, as they may consider them novel or otherwise. Patents are to be granted for fifteen years, for new inventions capable of being used industrially, but not for articles of food, medicines, disinfectants, or substances produced by chemical processes, where no new technical process is introduced. On the other hand, if the patent be granted for a process the effect of the patent also extends to the products directly produced by such process. Further, patents will not be granted for anything which has been described in a printed publication or has been publicly exhibited, or has been patented in any other country. The war authorities have the right io appropriate and use for their own requirements inventions relating to arms, explosives, ammunition, fortifications, ships, &c., such compensation being paid as is deemed reasonable. The Patent Office has power to grant licences compulsorily where the patentee refuses to do so, and such or any licence is transferable bythe licensee in connection with the business to which it belongs. The Patent Office has power to annul patents and to decide questions of validity. As a court of appeal against the decisions of the Patent Office, a patent court is to be instituted in Vienna. Opposition may be entered by any interested person to the granting of the patents within two months of the publication thereof. The renewal fees amount to nearly £200, payable annually, commencing at about £3 the first year, and increasing to £35 for the 15th year. There will be no compulsory working of the patent under the new law.

W. P. THOMPSON & Co., Patent Agents.

KRYPTON AND THE ROYAL SOCIETY.

AT the last meeting of this society, Professor Ramsay repeated the communication concerning the discovery of a new gas in the atmosphere which he made to the French Academy on Monday. By evaporating 750 cubic cemtimètres of liquid air down to ten cubic centimètres, collecting the gas from this residue, and removing the oxygen and nitrogen in the usual way, he obtained 26 cubic centimètres of a gas giving the spectrum of argon and with it another spectrum which he believed had not yet been seen before. The two spectra had not been disentangled, nor could it be judged what proportion of the residue was argon and what krypton, as he proposed to call the new element. Sir William Crookes, while congratulating the author of the paper, said he could not see that the case for a new element had been clearly made out, and that it could not be so made out on spectroscopic evidence alone. He regretted that the paper had been previously communicated to a foreign academy, and advocated enforcement of the ancient rule of the Royal Society not to receive second-hand communications, a rule which had once been enforced against himself on the ground that some details of his original work had leaked out in the columns of a "somewhat obscure scientific journal." Professor Armstrong spoke strongly in the same sense; and on the scientific aspect of the question protested against the assumption that gases such as argon and helium were chemically inert. Referring to the statement that the spectrum of the new gas had never been seen before, he recalled a paper published by Liveing and Dewar as long ago as 1894, in which the conspicuous lines now ascribed to krypton were noted in the spectrum of air at very low temperatures. Professor Liveing followed with a short account of that investigation, which showed a brilliant green line replacing at low temperature one of Schuster's oxygen bands, and approximating more or less closely to the auroral line. Sir William Huggins identified this line with the auroral line in a letter to Professor Ramsay, but Sir Norman Lockyer maintained that it did not coincide either with the auroral or with any solar or stellar line. Professor Ramsay having intimated his belief that the atmosphere might contain small quantities of some yet unidentified gas lighter than nitrogen, Professor Dewar observed that in a paper published last November he had notified the presence along with the helium spectrum of lines belonging to no known element. In a Friday evening lecture given at the Royal Institution two months ago he had also described very fully a method by which so small a proportion of a gas as one part in 180,000 could be separated from the air, and intimated that when time should permit he would pursue the line of research thus indicated. In a brief general reply Professor Ramsay said that in sending his paper to the French Academy he had been actuated by a desire to let the ladies see the new spectrum at the *conversazione* on Wednesday; and that he had never read or heard of the different papers referred to by Professor Dewar.

Trade Notes.

Yorkshire College and the Leather Trade.—At the Yorkshire College, Leeds, on Monday, the foundation stone was laid of a separate department for instruction in technology of the leather industries. This ceremony was performed by Mr. A. B. Kent, Warden of the Skinners' Company, of London, who have provided £5,000 in order to establish this department, and will liberally contribute towards the working expenses. The Skinners' Company readily responded to an appeal from the authorities of the Yorkshire College, endorsed by the local Leather Industries' Committee, to found a leather department on similar lines to those which some years ago were followed by the Clothworkers' Company for the benefit of the textile industries. A small department devoted to the study of the leather manufacture has been in operation six years at the Yorkshire College, but now it will be placed on a thoroughly efficient footing. Professor Procter has been appointed head of the department.

George P. Morgan and Co.—We are informed that the partnership formed in 1871 between Cooper Smith and George P. Morgan under style of Cooper Smith and Co., expired on 8th of December, 1893, with decease of Mr. Cooper Smith, and that from and after June 1st, 1898, the style of the firm will be changed to George P. Morgan and Co., Brokers and Commission Merchants, 32, North Front-street, Philadelphia, Pa.

Conditions of the Glass Trade.—A deputation representing the Glassworkers' Trade Union arrived in Sunderland, on Saturday, from a visit to Belgium, which was made to investigate the conditions of the glass trade in that country. The deputation was sent in consequence of the representations by the employers that they were unable to compete with Belgium, unless the men here would submit to longer hours and lower wages. The deputation report that the Belgium glassworkers have longer hours and lower wages than the English, but that they are without organisation, and the competition of Belgium with this country is due to English capitalists taking the advantage of that disorganisation and themselves conducting Belgium competition.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols have gone to pieces again, 90's now standing at 10d. and 50/90's 11d. Carbolic acids are firm, with more doing, while a rise is within the range of possibility. Nearest value for crude is 2s. and crystals 7¼d. Naphthas are unchanged and rather uncertain. Pitch is inclined to be firmer at 22s. to 23s f.o.b. East Coast.

Sulphate of ammonia is quiet, and prices generally are easier. The decline is attributed to "bearing" operations. Forward business is a blank. Closing prompt quotations are:—Beckton, nominal; London outside makes, £9.; Liverpool, £9. to £9. 3s 9d.; Hull, £8. 17s. 6d. to £9., and Leith, £9.

MISCELLANEOUS CHEMICAL MARKET.

Business in the alkali trade is, on the whole, quiet, though without quotable change; caustic soda is, if anything, rather easier, and current prices (f.o.b. L'pool) are: 77%, £8. 5s.; 74%, £8; 70%, £7. 2s. 6d; 60%, £6. 2s. 6d. nett, 10 ton lots. Ammonia alkali, 58%, is firmly maintained at £4. 2s. 6d. bags, f.o.r., for home trade, but for export price is weak. Soda crystals and bicarbonate are steady. Chlorates quiet. Soda at 3¾d. and potash 3¼d. per lb. For bleaching powder both home trade and export demand is light, and price has a weaker tendency; present quotation is £5. to £5. 2s. 6d. softwoods, f.o.r. makers' works. Sulphur firm at £4. 12s. 6d. f.o.r. Vitriol and muriatic acids unchanged. Sulphate of copper £15. 15s. f.o.b. Brown acetate of lime rather easier at £5. 7s. 6d. c.i.f.; grey, £7. 5s. per ton. Acetic acid unaltered. Acetate of soda £11. to £11. 5s. c.i.f. Brown sugar of lead rather scarce at £17. 10s. White powdered arsenic has further declined to £17. Garston, and is weak thereat. Prussiate of potash dearer at 6¾d. Sulphocyanides quiet and unchanged. Carbolic acid crystals are rather firmer. Glycerine dearer. Nitrate of soda is quoted higher for forward delivery. Aniline oil and salt are steady at recent quotations. Oxalic acid dull at 3¼d. per lb. Generally, the demand for chemicals in manufacturing centres is reported unsatisfactory, and prices, on the whole, are in buyer's favour.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 45s. 10½d.; Middlesbro', 39s. 11d cash; and hematite, 50s. 1d. Copper quiet: Chili bars, G.O.B.'s and G.M.B.'s, closed at £50. 3s. 9d. to £50. 8s. 9d. cash, and £50. 8s. 9d. to £50. 13s. 9d. three months. Tin firm: Straits closed at £68. 13s. 9d. to £69. 3s. 9d. cash, and £69. 1s. 3d. to £69. 11s. 3d. three months; Australian, £69. 10s.; English ingots, £71. 15s. to £72. 5s. Lead quiet: Spanish, £13. 2s. 6d.; English, £13. 17s. 6d.; Silesian spelter, ordinary, £19. 17s. 6d. Nickel, 1s. 2½d. Antimony, £36. 10s. to £37. Quicksilver: First hands, £7. 12s. 6d.; second hands, £7. 12s. *Copper shares* quiet: Cape, 4 9/16 to 4 11/16; Copiapo, 2 1/16 to 2 3/16; Libiola, 2 to 2¼; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, 25 15/16 to 26 1/16; Tharsis, 6 to 6¼.

REPORT ON MANURE MATERIAL.

The market has been rather quiet, but prices all round are well maintained.

Quotations for mineral phosphates are unchanged, but there is not much buying going on.

There is inquiry for River Plate bones, but buyers hesitate to pay the full price demanded for summer-autumn shipment. The value is probably £4. 7s. 6d. to £4. 10s. per ton, according to size and position. For East India bone meal, ex-store Liverpool, £4. 10s. to £4. 12s 6d. per ton, according to quantity, would be accepted. The quotation for shipment remains at £4. 15s. per ton.

Nitrate of soda is scarce on spot, and 7s. 9d. per cwt. is required for fine quality.

LIVERPOOL OIL AND COLOUR MARKET.

Wednesday.

OILS.—Palm oil is easy, with a quiet market. There has not been much business done. Linseed is steadily held at 18s. 3d. to 18s. 9d. cwt. for Liverpool makes in export casks. Olive is only in limited demand, and the tone is quiet. Cottonseed, after a slight improvement is again quiet at 16s. 3d. to 16s. 9d. cwt. Castor oil is very steady, and in fairly good demand at 3¾d. to 3 15/16d for good seconds Calcutta, and 3¼d. per lb. for first pressure French Tallow is dull and quiet, quotations for the most part being nominal in the absence of business. Resin remains unaltered in price, but there is only a moderate business doing. Spirits of turpentine are but poorly inquired for at 25s. to 25s. 3d. cwt. Petroleum unaltered, with Russian at 5¾ and American 5⅞d. to 7¼d. per gallon.

CAKES.—An easier tone continues to prevail in the market for American Western linseed, and spot parcels offer at a further reduction of 2s. 6d., the value being now £6. to £6. 7s 6d., with little or nothing doing thereat. For Liverpool makes there is not much inquiry, but sellers are not pressing, and the quotation is unaltered at £7. 15s to £8. 10s. per ton. Good to choice brands of American decorticated cottonseed are steady in tone, but meet with only a limited demand at £5. 5s. to £6, according to quality, and Liverpool makes, both of decorticated and undecorticated, are also in only retail consumptive request at recent values.

HULL PAINT, OIL, AND COLOUR REPORT.

Tuesday.

OILS.—The market here for all oils is slow. Refiners of cotton oil are turning out as much in a week as is usual for a day, and all the trade in oils is about in sympathy. Some holders of wheat for a further advance in price no doubt ere now regret their determination, for buyers now will not look at a sample even at some shillings per quarter below present quotations. The imports for the year as against the same time a year ago, have been—wheat, 1,048,103 qrs, against 1,104,126 qrs.; linseed, 140,230 qrs, against 282,000 qrs.; rapeseed, 33,925 qrs, against 51,340 qrs.; cottonseed, 105,789 tons, against 101,066 tons; oilcake, 8,079 tons, against 6,011 tons; olive oil, 2,964 tuns, against 2,661 tuns. Linseed oil is slow and quoted spot 16s. 1½d., and same to August; forward last four, 15s. 9d. sellers. Boiled and refined £1. to £1. 10s. per ton extra. Refined cotton oil is dull: spot, naked, 14s. 1½d., the same being the quotation to August; forward Nov./April 13s. 7½d. sellers. Casks £1, and barrels £1. 10s. per ton extra. Castor oil extracted here is unchanged, whilst advices from Marseilles are received here. First pressure, £27. to £27. 10s. f.o.b.; July, £26. 10s. to £27.; last six months, £26. to £26 10s.; second pressure, £1. to £1. 5s. per ton less money. Olive oils here are unchanged, whilst Marseilles quote Gioja, £30.; Gallipoli, £30. per 1,015 kilos., less 1% English ports. Olive oil soaps unchanged. Resins firm from £5. per ton, spot. Cod oil firm from £18. to £20. per ton.

CAKES.—Linseed very quiet, 95% pure, £7. 12s. 6d. to £7. 15s. Oilcakes (linseed), £6. 10s. to £6. 12s. 6d., Russians, £7. 2s. 6d. to £7. 7s. 6d. Cotton cakes steady, but with very poor demand: best makes, £4. 5s. to £4. 6s. 3d.; seconds, £4. 2s. 6d. to £4. 3s. 9d. Decorticated, £6. 5s. Meal, £6. 5s. Rape cakes unchanged.

PAINTS.—The demand is slackening in anticipation of half year's accounts. Prices unchanged. Disinfecting powder, 5% carbolic, £3.; 10%, £3. 10s; 15%, £4. per ton. Sanitary fluid, 10d. per gallon. Pinolia sanitary fluid, 2s. 6d. per gallon. Sanitary chloride of lime, 15% chlorine, £5. 10s. Black varnish, £5. per ton.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

The latest of the Scotch Oil Companies to declare results for the year is Young's Paraffin Light and Mineral Oil Company, and the declaration proves to be the worst of the whole series. There has been a dead loss for the year of about £8,500, and that with nothing written off for the depreciation of plant and works. Young's Company is the *doyen* of the industry, and the most heavily weighted with capital and debenture obligations. These bad results are attributed to the further lowering of the products market chiefly. These products (oils and paraffins for the most part) stand quite unchanged since last report, all except sulphate of ammonia, which continues to weaken steadily. Prompt Leith quotation to-day is £9 only. In forward business there is no movement. General chemicals continue quietly steady at about the old figures. Sulphate of copper still easy, but no further drop.

Chief prices current are:—Soda crystals, £2. 5s. to £2. 12s. 6d. nett Tyne, soda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, 48/52°, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to £5. nett, Glasgow; caustic soda, white, 74° £8., 70/72° £7. 2s. 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liverpool; bleaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 25s 0d. borax, English, refined, £14., and boracic acid, £24. nett, Glasgow; bicarbonate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7., nett, Liverpool; bichromate of potash, 3¾d., nett for Scotch and English deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate of soda, 3d. nett, for Scotch and English deliveries (for export, 2¾d. nett, f.o.b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; nitrate of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 0s. 0d. prompt, f.o.b. Leith; salammoniac, first and second white, £35 and £33. nett, any port; sulphate of copper, £16. less 5% any port; paraffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; paraffin wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were nil.

TYNE CHEMICAL REPORT.

TUESDAY.

Chemicals continue quiet, with only a sluggish demand, though prices keep fairly steady. Soda crystals in good request at £2. 12s. 6d. per ton, gross weight, locally. Caustic, 76/77%, £8. 10s. per ton; 70%, £7. 10s. per ton. Sulphur scarce at £4. 15s. to £5. per ton. Shipments are somewhat improving.

Bleaching powder, softs, £5. 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £4. 15s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 6% f.o.b. Liverpool; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—South Durham salt is unchanged at 9s. per ton, f.o.b. Tees.

COALS.—There is still a strong demand for early delivery, and prices are steady. Bunker coals are very firm, and a higher figure is asked for next week's delivery. Coke in good consumption, and steady at 18s. 6d. to 20s. per ton. Best Northumbrian steam, 14s. 6d. to 15s. per ton; second qualities, 13s. 6d. to 14s. per ton; small steam, 4s. 9d. to 5s. per ton; bunker coals, 10s. to 11s. per ton; gas coals, 8s. 6d. to 8s. 9d. per ton; household coals, 10s. to 11s. per ton; coke, from 18s. 6d. to 21s. per ton.

New Companies.

Baku Russian Petroleum Co., Ltd.—CAPITAL £1,500,000. in £1. shares. This company has been formed to adopt an undescribed agreement for the acquisition of any petroleum or oil bearing lands in Russia or elsewhere, and to carry on the business of dealers in and refiners of petroleum and other mineral oils, mine owners, merchants, carriers, wharfingers, manufacturers, shipowners, lightermen, etc. The subscribers are:—A. J. Swan, 124, Peckham Rye, S.E., gentleman; T. H. Riches, Shenley-road, Camberwell, clerk; J. M. Lickfold, 33, Brunswick Square, W.C., journalist; E. Wyatt, Lausanne-road, Hornsey, clerk; W. W. P. Gaskell, Shangarry, Wandsworth Common, gentleman; G. A. J. Smallman, Ranelagh House, New Southgate, clerk; D. J. Prosser, 12, Matham Grove, E. Dulwich, clerk.

Cowper-Coles Metals Extraction Synd., Ltd.—CAPITAL £75,000. in £1. shares. This company has been formed to adopt an agreement with the Cowper-Coles Zinc Extraction Synd., Ltd., and its liquidator, and to manufacture, export, import, and deal with blende, zinc, metals, metallic substances, and minerals of all kinds. The subscribers to the memorandum of association are:—S. Cowper-Coles, 39, Victoria-street, S.W., engineer; G. B. Pearce, Hayle, tin smelter; J. Vivian, Hayle, merchant; J. M. Holman, Camborne, engineer; G. B. Samuelson, 7, Cadogan Gardens, S.W., manufacturer; E. R. Roberts, 13, Old Sq., Lincoln's Inn, barrister; O. Wethered, 28-9, St. Swithin's Lane, E.C., engineer. Registered office, Mellavear, Hayle, Cornwall.

E. Robinson & Co., Ltd.—CAPITAL £5,000. in £5. shares. This company has been formed to acquire the business carried on as E. Robinson & Co., at Mary-street, Sheffield, and to manufacture, refine, and deal in varnish, polish, paint, glue, oil, grease, etc. The number of directors is not to be less than 3 nor more than 5. The first are E. Robinson, R. Robinson, and G. M. Robinson.

Hamor Lockwood's, Ltd.—CAPITAL £100,000. in £1. shares (30,000 pref.). This company has been formed to acquire the business carried on by H. Lockwood, at Manchester, as Hamor Lockwood and H. Lockwood & Co., and to carry on the business of wholesale and retail manufacturing chemists and druggists, manufacturers of all kinds of chemicals and tar products, general paviors, builders, engineers, etc. The subscribers to the memorandum of association are:—E. Williams, Ashley Villa, Droylsden, Manchester, J.P.; G. Crompton, Gilda Brook-road, Eccles, Manchester, drysalter; G. Moore, Roman Villas, Manley Park, Manchester, cashier; H. Lockwood, Manley Park, Manchester, manufacturer; F. L. Scott, Westmere, Broomhill, Sheffield, steel manufacturer; J. H. Todd, Examiner Buildings, Manchester, advertising contractor; H. Heap, 48, Upper Aughton-road, Birkdale, journalist; R. Cunliffe, 61, Derby-road, Weaste, Manchester, engineer.

John M. Hamilton & Co., Ltd.—CAPITAL £40,000. in £10. shares (2,000 pref.). This company has been formed to acquire the business carried on by J. M. Hamilton, C. Fillingham, C. F. Taylor, and J. M. Hamilton, junr., at the Sculcoates Bridge Works, Hull, as John M. Hamilton and Co., to adopt a certain agreement, and to carry on the business of tar and resin distillers, oil boilers and refiners, drysalters, etc. The subscribers to the memorandum of association are:—J. M. Hamilton, Clarence Villa, Stepney, Hull, tar distiller; C. Fillingham, 46, Albany-street, Hull, tar distiller; C. F. Taylor, Quern House, Park-street, Hull, tar distiller; J. M. Hamilton, junr., Clarence Villa, Stepney, Hull, tar distiller; F. M. Hamilton, Clarence Villa, Stepney, Hull, engineer; G. Taylor, Quern House, Park-street, Hull, traveller; T. W. Fillingham, 46, Albany-street, Hull, clerk. Registered office, Sculcoates Bridge Works, Hull.

Gazette Notices.

BANKRUPTCY ACTS, 1883 and 1890.
Receiving Order.

MCPHAIL, T. R. (carrying on business as T. R. McPhail and Co.), Liverpool, chemical broker.

PARTNERSHIP DISSOLVED.

W. H. LAMBERT, W. HAIGH, and H. WADSWORTH, drysalters and oil merchants, Huddersfield, under the style of Lambert, Haigh, and Wadsworth, as far as regards W. H. Lambert.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.
Week ending June 4th.

Acetate of Lime—
U. States, 290 pks. H. C. M. Phillips

Acetic Acid—
Holland, 148 pks. A. & M. Zimmermann

Acids—
Holland, 15 pks. Little & Johnston

Alkali—
Canada, 208 c. J. Barber & Co.
Holland, 2,580 R. Waters
Germany, 42 Spies, Brs. & Co.

Alum—
Holland, 540 pks. J. White

Arsenic—
France, £25 J. Harrison

Asbestos—
Germany, £475 S. Taylor
Canada, 300 W. Byford
Germany, 150 Craven & Co.

Barium Chloride—
Germany, 22 pks. Petri Brs.

Barytes—
Germany, 29 pks. J. L. Lyon & Co.
Belgium, 73 "
" 65 O'Hara & Hoar
" 34 W. Harrison & Co.
Holland, 113 "
" 52 Taylor Brs.
Germany, 10 H. Lambert
Holland, 24 O'Hara & Hoar

Bleaching Powder—
France, £97 F. Claydon & Co.
Holland, 11 J. M. Steel & Co

Bromide of Iron—
Germany, 25 pks. A. & M. Zimmermann

Bromine—
Germany, 20 pks. A. & M. Zimmermann

Caoutchouc—
Germany, 1 c. Hoare, Wilson & Co.
Borneo, 25 Elkan & Co.
U. States, 10 Taylor Brs.
Germany, 1 Anderson, Weber & Co.
Straits, 212 E. Boustead & Co.
" 80 Butler's Wf., Ld.
" 2 Lambert & Strong
Madagascar, 6 L. & I. D. Jt. Co.
Germany, 6 Prop. Bull Wf.
" 16 Major & Field
E. Indies, 165 W. Balchin, Ld
Straits, 95 W. Pope & Co.
" 74 L. & I. D. Jt. Co.
P.E.Africa, 20 "
Rangoon, 186 "
Zanzibar, 41 "
" 7 Hall & Son
" 26 Forbes. Forbes & Co.
" 19 Clarke & Smith
France, 11 H. Johnson & Sons

Caustic Potash—
Germany, 88 pks. J. M. Steel & Co.
" 80 D. T. Domeier & Co.,
France, 20 W. E. Cole
" 100 F. W. Berk & Co.,

Chemicals (*otherwise undescribed*)
France, £134 Mory & Co.
Belgium, 66 T. H. Lee
Melbourne, 10 Sanitas Co.
Germany, 606 L. & I. D. Jt. Co.
" 50 Craven & Co.
" 775 A. & M. Zimmermann
" 245 Butler's Wf., Ld.
" 32 Blagden, Waugh & Co.
Holland, 14 L. & I. D. Jt. Co.
" 6 J. Owen
Belgium, 117 T. Palmer
" 260 B. & F. Wf. Co.
France, 81 H. Ewald & Co.
Belgium, 10 John Cockerill Line
U. States, 2,100 S. C. Jones
Germany, 75 H. Lambert
France, 7 H. Walbaum & Tosetti
Holland, 11 T. H. Lee
" 67 Hernu. Peron & Co.
" 7 John Cockerill Line
Sweden, 15 M. D. Co.
Sydney, 1,050 L. & I. D. Jt Co.

Citric Acid—
Germany, 2 pks. H. Lambert

Copper Sulphate—
U. States, 227 pkz. Brandies, Goldschmidt & Co.

Cream of Tartar—
France, 10 pks. W. C. Bacon & Co.
Spain, 10 "
" 5 F. C. Devon & Co.
France, 8 Vokins & Co., Ld.
" 29 B. & F. Wf. Co.

Dyestuffs—
Aniline
France, 3 pks. L. C. & D. Rly.
Argols
Italy, 181 pks. B. Jacob & Sons
" 36 Thames S. T. & L. Co.
Cochineal
Canaries, 72 pks. W. M. Smith & Sons
" 40 Sperling & Williams
" 6 Swanston & Co.
Cutch
Rangoon, 1,061 pks. A. Howden & Co.
" 300 H A. Litchfield & Co.
Divi Divi
E. Indies, 662 pks. Walker, Munsie & Co.

Extracts
France, 1 pk. J. Harrison
U. States, 25 L. J. Levinstein & Sons
Canada, 270 Boutcher, Mortimore & Co.
" 153 Furness, Withy & Co.
Fustic
Canada, 15 t. S. Dobree & Sons
Gambier
Straits, 227 pks. Brinkmann & Co.
" 275 J. Swire & Sons
Indigo
Madras, 4 chts. L. & I. D. Jt. Co.
" 30 J. W. Cook & Co., Ld.
" 18 P. Macfadyen & Co.
" 11 H. Johnson & Sons
E. Indies, 10 J. Owen
" 4 Arbuthnot, Latham & Co.
Holland, 1 J. Forsey
Bengal, 15 Parsons & Keith
Myrabolams
E. Indies, 600 pks. Dalton & Young
" 2,049 W. Shelcott
" 645 Sandy & Sons
Saffron
Spain, 1 pk. Schwann & Co.
Tanners' Bark
Germany, 23 t. Baxter & Hoare
Cape, 36 A. & W. Nesbitt
Belgium, 18 Leach & Co.
Turmeric
E. Indies, 164 pks. Major & Field
" 277 J. W. Cook & Co., Ld.
China, 124 R. G. Hall & Co

Esparto—
Algeria, 721 t. Vilumbrales, Son & Co.

Farina—
Germany, 50 pks. J. Barber & Co.

Glauber Salts—
Germany, £20 Deering & Robottom

Glucose—
Germany, 70 pks. 655 c. Bennett S. S. Co., Ld.
U. States, 500 2,295 A. E. Piggott
" 50 280 L. & Til. Ltge. Co.
" 1,150 4,260 R. G. Hall & Co.
Germany, 100 100 Trier, Meyer & Co.
France, 200 200 "
" 200 200 L. Norman & Co., Ld.
U. States, 76 304 T. M. Duche & Sons
France, 200 200 W. E. Cole
" 500 500 Fellows, Morton, & Co.
U. States, 500 500 "
" 750 750 Barrett Tagant & Co.
Holland, 20 40 J. Barber & Co.

Glue—
Germany, £96 Butler's Wf., Ld.
" 273 L. & I. D. Jt. Co.
France, 11 Mory & Co.
U. States, 75 B. Galloway
France, 19 J. Harrison
Holland, 45 T. H. Lee
Germany, 110 H. Lambert
" 34 M. D. Co.
Belgium, 372 Girard Tieres

Glue Stock—
Germany, 15 bls. L. & I. D. Jt. Co.
Belgium, 149 Leach & Co.
N. Zealand, 1 T. J. & T. Powell
Madras, 68 "
Calcutta, 125 W. Balchin, Ld.
N. Zealand, 9 Deering & Robottom
Germany, 28 Hicks, Nash, & Co.
Calcutta, 56 J. W. Cook & Co.

Glycerine—
Holland, £150 J. Owen
Germany, 90 R. W. Greeff & Co.
Q'eensland, 175 H. Devitt & Co.
Melbourne, 300 L. & I. D. Jt. Co.

Guano—
Straits, 20 t. R. W. Paul

Gutta Percha—
Straits, 670 c. Soundy & Sons
B. Guiana, 9 S. Figgis & Co.
France, 25 G. Treves
Straits, 710 H. W. Jewsbury & Co.
" 188 L. & I. D. Jt. Co.
B.W.I., 5 Anderson, Weber, & Smith
B. Guiana, 20 Lewis & Peat

Lamp Black—
U. States, 200 pks. Binney & Smith
" 50 J. Melvin

Methyl Alcohol—
Germany, 13 dms. Stein Brs.
U. States, 50 brls. H. G. Brown
France, 10 cks. E. J. Catlin

Mica—
Germany, £14 Craven & Co.
Calcutta, 1,450 E. Davis & Co.
Madras, 50 W. Brandts, Sons, & Co.
Calcutta, 70 Henderson Brs.
" 630 E. Flageollet & Co.
" 2,140 W. M. Smith & Sons

Molasses—
U. States, 100 brls. 573 d. C. & S. Anderson
" 125 674 J. W. Cook & Co., Ld.

Naphthaline—
Germany, 10 pks. Forbes, Abbott, & Co.
" 29 Fleming's Oil & Chemical Co.

Ochre—
U. States, 85 pks. Page, Son, & East
Holland, 21 Phillipps & Graves
France, 21 W. Slimmon
U. States, 155 J. Pattison & Co.
France, 107 W. Harrison & Co.

Oxalic Acid—
France, 27 pks. C. S. Lovell

Paraffin Wax—
U. States, 230 brls. Lon. & Til. Ltge. C. & D. Co.
Rangoon, 1,590 brls. H. Hill & Sons
" 15 A. Howden & Co.
U. States, 310 Palmer & Co., Ld.
" 212 G. H. Frank
" 200 H. Hill & Sons

Phosphate of Lime—
Belgium, 115 t. Anglo-Contl. Guano Works
France, 195 West & Penrose

Phosphate—
France, 190 t. A. Hunter & Co.

Pitch—
Sydney, 140 brls. C. Price & Co.
Germany, 240 cks. Fellows, Morton, & Co.
N. Russia, 500 "

Plumbago—
Ceylon, 149 brls. Orient Co., Ld.
" 51 Marshall & French
" 245 Morgan Crucible Co., Ld.
" 263 R. G. Hall & Co.

Potassium Bromide—
Germany, £200 R. W. Greeff & Co.

Potassium Carbonate—
France, 115 c. J. A. Reid
" 60 Petri Brs.
Germany, 22 pks. "

Potassium Cyanide—
France, £100 F. Boehm

Potassium Permanganate—
Germany, £25 Butler's Wf., Ld.

Potassium Prussiate—
Holland, 24 pks. Blagden, Waugh, & Co.

Pyrites—
Portugal, 1,500 t. Mason & Barry, Ld.

Rosin—
U. States, 4,915 brls. Prod. Brokers' Co., Ld.
" 300 Fairclough, Dodd, & Jones
" 1,000 Thames S. T. & L. Co., Ld.

Salicylic Acid—
Germany, 15 pks. Butler's Wf., Ld.

Saltpetre—
Germany, 60 cks. J. Hall & Son
" 2 L. & I. D. Jt. Co.
" 70 S. E. Rly Co.
Calcutta, 107 bgs. Lucas & Spencer's Wf.

Sodium Hypochlorite—
Germany, £140 H. Lambert

Starch—
Holland, 204 pks. Phillipps & Graves
U. States, 170 Beck & Pollitzer
Germany, 200 C. Tennant, Sons, & Co.
France, 470 W. E. Cole
Holland, 1,113 Little & Johnston
Germany, 740 Horne & Co.
" 300 Seaward Brs.
U. States, 100 F. Claydon & Co.
Belgium, 360 T. H. Lee
" 200 Becker & Wagner
U. States, 50 Ohlenschlager Brs.
" 240 W. G. Taylor & Co.
Holland, 320 A. G. Robinson & Co.
Germany, 226 Phillipps & Graves
Belgium, 492 F. Claydon & Co.
U. States, 245 R. G. Hall & Co.
" 40 J. Barber & Co.
" 50 Bertel Food Co.
Belgium, 40 Leach & Co.
Holland, 40 Hernu, Peron, & Co.

Stearine—
H. Kong, 51 bls. J. Owen
Sydney, 444 bgs. J. Allen & Co.

Tallow—
Holland, 10 cks. Phillipps & Graves
N. Zealand, 130 J. Graves
U. States, 170 tcs. Lon. & Til. Ltge. C. & D. Co.
" 100 C. S. Lovell
Sydney, 60 cks. Elkan & Co.
N. Zealand, 340 Goad, Rigg, & Co.
" 56 Brown & Elmslie
" 150 Phillipps & Graves
U. States, 60 Beresford & Co.
Sydney, 146 Goad, Rigg, & Co.
N. Zealand, 270 J. W. Cook & Co.
" 318 N. Z. L. & M. A. Co.
" 78 Dalgety & Co.
" 123 J. Greig
" 7 Hoare, Wilson, & Co.
" 3 Culverwell, Brook, & Co.
Sydney, 141 "
" 108 H. Hill & Sons
" 60 Union Ltge. Co.
" 821 Phillipps & Graves
Melbourne, 270 "
" 504 Elkan & Co.
Germany, 6 Butler's Wf., Ld.
Q'eensland, 133 Dalgety & Co.
Sydney, 166 J. Allen & Co.
" 115 Deering & Robottom
" 377 Beresford & Co.
" 102 Clyde Shipping Co.
" 30 Aust. Meat Co.
N. Zealand, 60 Phillipps & Graves
" 204 Lucas & Spencer's Wf.
Q'eensland, 113 Goad, Rigg, & Co.

Tar—
N. Russia, 64 brls. Linck, Moeller, & Co.

Tartaric Acid—
Holland, 6 pks. F. C. Devon & Co.
" 20 Kirkpatrick, Barr, & Co.
Belgium 13 F. C. Devon & Co.

Ultramarine—
Germany, 8 pks. J. Kitchin, Ld.
Holland, 3 J. Barber & Co.

Varnish—
U. States, 20 pks. Williams, Torrey, & Co.
" 20 Pinchin, Johnson, & Co.
Germany, 16 Butler's Wf., Ld.
" 22 Phillipps & Graves
U. States, 4 L. & I. D. Jt. Co.

Verdigris—
France, 2 pks. B. & F. Wf. Co.

White Lead—
Belgium, 27 pks. J. L. Lyon & Co.
Holland, 39 J. R. Francis & Co.
" 36 Wilkinson, Heywood & Co.
Germany, 26 H. B. Alder & Co.
" 11 H. Lambert
" 12 O'Hara, Matthews & Co.

Wood Pulp—
Sweden, 380 pks. G. Hagborg & Co.
U. States, 211 L. & Til L. C. & D. Co.
Sweden, 160 W. G. Taylor & Co. Ld.
Norway, 1,780 Johnsen & Jørgensen
" 7,270 London Paper Mills Co.
Holland, 54 C. S. Lovell
Sweden, 5,133 Henderson, Craig, & Co.
Norway, 180 W. G. Taylor & Co., Ld.
Canada, 600 J. Davis
U. States, 2,800 Christie & Co.
Germany, 50 Henderson, Craig, & Co.
Norway, 282 M. D. Co.
" 250 Tough & Henderson
Sweden, 392 A. H. Kerp
" 3,075 W. D. Cork
Canada, 2,162 Furness, Withy & Co.
Norway, 800 J. Sharp

Zinc Chloride—
Holland, £31 Phillipps & Graves

Zinc Oxide—
Holland, 51 pks. J. Matter
Germany, 100 M. Ashby, Ld.
" 35 R. W. Greeff & Co.
" 50 D. Storer & Sons
" 2 H. Lambert

LIVERPOOL.

Week ending June 2nd.

Aniline Salts—
Rotterdam 4 cks.
Barytes—
Antwerp, 79 cks.
Rotterdam, 48
Bone Ash—
River Plate, 843 bgs.
Chemicals *(otherwise undescribed)*
Vera Cruz, 5 cs. Elliot's Metal Co
Colours—
Antwerp, 3 cks.
Cream of Tartar—
Spain, 5 cks J. & L. Setzler
Bordeaux, 74
Disinfectants—
Rotterdam, 1 brl.
Dyestuffs—
Argols
Valparaiso, 2 sks.
Divi Divi
Curacao, 193 bgs. J. T. Fletcher & Co.
Extracts
Philadelphia, 200 bxs.
Genoa, 25 brls.
Fiume, 200
Boston, 4
Baltimore, 10
Bordeaux, 200 cks. R. J. Francis & Co.
Halifax, 57
Ghent, 20
Fustic
Cartagena, 178 pcs. G. H. Muller & Co.
Barranquilla, 1,403 bgs. "
Colon, 2,8 logs
Myrabolams
Bombay, 4,304 bgs.
Shumac
Palermo, 1,000 bgs.
Valonia
Patras, 387 bgs. Papayanni & Jeremias
" 210 A. M. Calliejas
" 1 cs.
Dyestuffs *(otherwise undes.)*—
New York, qty.
Farina—
Fiume, 130 bgs.
Glucose—
New York, 500 brls. F. W. Simonds & Sons
Boston, 200 Rogers, Holloway
" 350 L. Sutro & Co.
Baltimore, 350
Glue—
Naples, 100 bls.
Fiume, 4 cks.
Iron Oxide—
Trieste, 14 brls Gabrain Brs.
Limestone—
Nantes, 1 crt. R. J. Francis & Co.
Paint—
Boston, 5 cs. Farr & Wonson
" 83
Philadelphia, 3 pks. Hacking & Co.
Paraffin Scale—
New York, 500 brls. Thompson & Bedford
Baltimore, 200
Paraffin Wax—
Philadelphia, 150 brls.
Plumbago—
Genoa, 80 bgs.
Potash—
Hamburg, 10 cks.
Potassium Chlorate—
Hamburg, 3 cks.
Pyrites—
Huelva, 5,029 t. Matheson & Co.
Rosin—
Wilmington, 5,322 brls.
Salt—
N. Orleans, 250 sks
Hamburg, 10 cks.
Saltpetre—
Hamburg, 4 cks.
Soap—
Bari, 180 cs.
Boston, 20 J. Thompson
Soap Stock—
Bari, 100 brls.
Soapstone—
Genoa, 100 bgs.
" 100 J. Martins & Co.
Soda—
Hamburg, 6 cks.
Starch—
New York, 684 bgs. T. M. Duche & Sons
Hamburg, 80 cs.
Baltimore, 40
Philadelphia, 110 brls. J. Howard & Co.
Stearine—
Baltimore, 75 tcs.
Tallow—
New York, 350 hds. 300 hf.-pps.
Philadelphia, 175 tcs.
Boston, 60
Montreal, 80 brls.
Baltimore, 125
Ultramarine—
Hamburg, 5 cks. 5 cs.
Rotterdam, 20
Waste Salt—
Hamburg, 2,739 bgs.
White Lead—
Rotterdam, 89 cks.
Wood Pulp—
Hamburg, 200 bls.
Halifax, 60 Baker & James
Rotterdam, 154
Drammen, 107 os. L. S. Dixon & Co.
Zinc Oxide—
New York, 100 brls.
Antwerp, 10
Rotterdam, 10 cks.
Zinc White—
Hamburg, 80 cks.
Rotterdam, 25

MANCHESTER.

Week ending June 4th.

Acetic Acid—
Rotterdam, 68 blns.
Albumen—
Ghent, 20 cs.
Hamburg, 3 cks.
Alizarine—
Rotterdam, 43 cks.
Alumina Sulphate—
Rotterdam, 16 cks.
Ammonia—
Rotterdam 20 cyldrs.
Ammonium Oxalate—
Rotterdam, 5 cks.
Aniline Colours—
Hamburg, 44 cks.
Antimony Bifluoride—
Hamburg, 4 cks.
Antimony Sulphide—
Hamburg, 1 ck.
Arsenic—
Antwerp, 6 cks.
Barytes—
Antwerp, 50 bgs.
Rotterdam, 33 cks.
Barium Chloride—
Hamburg, 22 cks.
Rotterdam, 2
Chemicals *(otherwise undescribed)*
Antwerp, 10 pks J. T. Fletcher & Co.
Colours—
Antwerp, 9 cks. J. T. Fletcher & Co.
Rotterdam, { 14 49 cs. 7 bxs. 249 brls.
Farina—
Rotterdam, 1,300 bgs. N. W. Jackson
Stettin, 800 Browne, Geveke, & Co.
Fustic—
Falmouth, 414 t.
Gelatine—
Hamburg, 30 cs.
Glucose—
Rotterdam, 5 cks.
Glue—
Stettin, 30 bgs.
Lead Acetate—
Stettin, 52 cks.
Limestone—
Antwerp, 3 pks. J. T. Fletcher & Co.
" 1 crt. 1 cs.
Litharge—
Rotterdam, 16 cks.
Ochre—
Rotterdam, { 3 cks. 5 bgs.
Oxalic Acid—
Rotterdam, 15 cks.
Stettin, 20
Potash—
Antwerp, 4 cks.
Hamburg, 10
Rotterdam, 18
Potassium Prussiate—
Hamburg, 4 cks.
Potassium Sulphate—
Rotterdam, 100 bgs.
Salt—
Hamburg, 10 cs.
Soap—
Rotterdam, 3 bxs.
Starch—
Antwerp, 130 cs. J. T. Fletcher & Co.
" 80
Hamburg, 160
Rotterdam, 42
Tannic Acid—
Hamburg, 10 cks.
Tartaric Acid—
Rotterdam, 22 cks.
Turpentine—
Alexandria, 3 brls.
Ultramarine—
Hamburg, 6 cks. 10 cs.
Waste Salt—
Hamburg, qty.
Wood Pulp—
Halifax, 9,533½ bls. Chadwick & Taylor
" 1,263 Maritime Sulphate F. Co.
Rotterdam, 5 pks.
Zinc Dust—
Stettin, 15 cks. 6 pks.
Zinc Oxide—
Rotterdam, 20 cks.

GLASGOW.

Week ending June 9th.

Acetate of Lime—
Philadelphia, 308 bgs.
Acetic Acid—
Rotterdam, 7 cks. 10 carboys J. Rankine & Son
Ammonia—
Rotterdam, 1 bg. J. Rankine & Son
Barium Sulphate—
Antwerp, 100 bgs.
Barytes—
Rotterdam, 82 cks. J. Rankine & Son
Antwerp, 100 bgs.
Bleaching Powder—
Rotterdam, 45 cks.
Bone Dust—
Bombay, 6 bgs.
Castor Oil—
Marseilles, 1 ck. 128 brls.
Chromium Sulphate—
Rotterdam, 7 cks. J. Rankine & Son
Dyestuffs—
Alizarine
Rotterdam, 11 brls. J. Rankine & Son
Aniline
Rotterdam, 12 cks. 6 bxs. 42 brls. 6 cs. J. Rankine & Son
Aniline Colours
Hamburg, 14 cks.
Argols
Bordeaux, 60 cks.
Cutch
Rangoon, 600 bxs. 332 cs. P. Henderson & Co.
Extracts
Antwerp, 2 cks.
Marseilles, 300 brls.
Valonia
Smyrna, 500 t. Martin & Millar
Fluoric Acid—
Hamburg, 1 ck.
Glucose—
New York, 598 brls.
Newport News, 300
Glue—
Rouen, 22 cks.
Hamburg, 1
Litharge—
Rotterdam, 1 ck. J. Rankine & Son
Manganese Chloride—
Rotterdam, 6 cks. J. Rankine & Son
Methyl Alcohol—
Antwerp, 11 dms.
Ochre—
Rouen, 20 cks.
Rotterdam, 25 J. Rankine & Son
Marseilles, 240 cs.
Paraffin Scale—
Philadelphia, 175 brls.
Phosphate Rock—
Fernandina, 1,600 t. A. Cross & Son
Ghent, 4,000 bgs.
Pitch—
Marseilles, 24 brls.
Potash—
Rouen, 9 cks.
Rotterdam, 64 J. Rankine & Son
40 dms.
Potassium Chlorate—
Marseilles, 25 brls.
Rosin—
Brunswick 3,704 brls.
Savannah, 3,043
Baltimore, 1,350
Size—
New York, 100 brls.
Soap—
New York, 2,600 bxs.
Newport News, 335 brls.
Marseilles, 1 cs.
Soap Stock—
New York, 1 bx.
Sodium Sulphate—
Antwerp, 14 cks.
Starch—
Baltimore, 600 bgs.
Newport News, 900 sks.
Philadelphia, 100
Antwerp, 4 28 cs.
Tallow—
Baltimore, 143 tcs.
Tartar—
Bordeaux, 50 cks.
Tartaric Acid—
Bordeaux, 2 cs.
Marseilles, 2 cks.
Turpentine—
Savannah, 1,400 brls.
Brunswick, 1,100
Varnish—
New York, 22 brls.
Antwerp, 2 cks.
Waste Salt—
Hamburg, 125 t.
White Lead—
Rotterdam, 78 cks. J. Rankine & Son
Wood Pulp—
Drammen, 3,806 bls. A. & J. Clark
Christiania, 332
Hamburg, 406
Zinc White—
Rotterdam, 25 cks. J. Rankine & Son

HULL.

Week ending June 4th.

Aniline Colours—
Rotterdam, 1 cs. 12 cks. Hutchinson & Son
Arsenic—
Hamburg, 50 kgs. Wilson, Sons, & Co., Ld.
Barytes—
Antwerp, 204 pks. Bailey & Leetham, Ld.
" 100 bgs. H. F. Pudsey
" 73 cks. Blundell, Spence, & Co.
Bremen, 258 pks.
Antwerp, 146 cks. Wilson, Sons, & Co., Ld.
Caoutchouc—
Hamburg, 6 bls. Wilson Sons, & Co., Ld.
Chemicals *(otherwise undescribed)*
Ghent, 5 bgs. Wilson, Sons, & Co., Ld.

Rotterdam, 5 cks. Hutchinson & Son
Hamburg, 3 Wilson, Sons, & Co., Ld.
Antwerp, { 4 pks. 8 cks. ,,
Dunkirk, 120 dms. ,,

Colours—
New York, 2 cks. Wilson, Sons, & Co., Ld.
Rotterdam, 4 Hutchinson
84 pks. & Son
,, 125 W. & C. L. Ringrose
,, 9 cks. Wilson,
1 cs. Sons, & Co., Ld.
Antwerp, { 22 pks. 15 cs. ,,

Cottonseed Oil—
New York, 160 brls. Wilson, Sons, & Co., Ld.

Creosote Salts—
Rotterdam, 1 ck. Hutchinson & Son

Dyestuffs—
Alizarine
Rotterdam, 2 cks. Hutchinson
3 brls. & Son
Argols
Bordeaux, 92 bgs. Rawson & Robinson
Extracts
Hamburg, 54 brls. Wilson, Sons, & Co., Ld.

Farina—
Antwerp, 165 bgs. Wilson,
70 pks. Sons, & Co., Ld.
Hamburg, 50 bgs. ,,

Glucose—
Rotterdam, 20 bgs. Hutchinson & Son

Glue—
Dunkirk. 66 cks. Wilson, Sons, & Co., Ld.
Hamburg, 25 pks. Sommerfeld & Mead

Glue Stock—
New York, 25 bgs. Wilson, Sons, & Co., Ld.

Ochre—
Bremen, 20 cks. Sissons Brs. & Co.

Olive Oil—
Bordeaux, 4 cs. Rawson & Robinson

Phosphates—
Ghent, 1,000 bgs. Wilson, Sons, & Co., Ld.

Pitch—
Amsterdam, 1 ck. W. & C. L. Ringrose

Plumbago—
Hamburg, 18 cks. Wilson,
11 brls. Sons, & Co., Ld.

Potash—
Bremen, 1 ck. Veltmann & Co.

Saltpetre—
Antwerp, 135 bgs. Wilson, Sons, & Co., Ld.
Hamburg, 12 ,,

Soap—
Rotterdam, 2 cs. W. & C. L. Ringrose

Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.

Starch—
New York, 500 bgs. Wilson, Sons, & Co., Ld.
Ghent, 381 cs. ,,
Amsterdam, 40
Antwerp, 80 Hall & Sons
,, 360

Tallow—
New York, 187 brls. Wilson, Sons, & Co., Ld.
Boston, { 75 860 tcs ,,
Dunkirk, 238 cks. ,,

Tar—
Norrkoping, 150 brls.
Rotterdam, 5 Hutchinson & Son

Tartar—
Bordeaux, 2 cks. Rawson & Robinson

Tartaric Acid—
Rotterdam, 10 cks. Hutchinson & Son
,, 2 W. & C. L. Ringrose

Ultramarine—
Antwerp, 2 cks. Bailey & Leetham, Ld.
Rotterdam, 6 Hutchinson & Son

Waste Salt—
Hamburg, 1 ck. Wilson, Sons, & Co., Ld.

White Lead—
Amsterdam, 11 cks. Hutchinson & Son
Antwerp, 21 Bailey & Leetham, Ld.
Rotterdam, 80 Hutchinson & Son
Dunkirk, 26 Wilson, Sons, & Co., Ld.

Wood Pulp—
Christiania, 50 cs. Wilson, Sons, & Co., Ld.
Christiansand, 320 bls. ,,
Drontheim 1,760 ,,
Gothenburg, 337 ,,
,, 100 W. Shipstone & Co.
Boston, 181 bdls. Wilson, Sons, & Co., Ld.
,, 329
Helsingfors, 409 bls. J. Good & Sons

Zinc Oxide—
Antwerp, 45 cks. Bailey & Leetham, Ld.

Zinc Sulphide—
Hamburg, 16 cks.

TYNE.

Week ending June 4th.

Acids—
Hamburg, 1 ck. Tyne S. S. Co.

Barytes—
Antwerp, 500 bgs. Tyne S. S. Co.
Rotterdam, 399 ,,
,, 57 cs. ,,

Bleaching Powder—
Christiania, 1 pcl.

Chemicals (*otherwise undescribed*)
Hamburg, 12 cs. Tyne S. S. Co.

Esparto—
Marseilles, 539 t. Morris & Co.

Glue—
Hamburg, 1 cs. Tyne S. S. Co.

Limestone—
Antwerp, 19 crts. Tyne S. S. Co.

Plumbago—
Hamburg, 5 cks. Tyne S. S. Co.

Soap—
Rotterdam, 6 cs. Tyne S. S. Co.

Starch—
Rotterdam, 152 cs. Tyne S. S. Co.

Stearine—
Antwerp, 9 bgs. Tyne S. S. Co.

Wood Pulp—
Christiania, 1,280 bls. P. H. Matthiessen & Co.
,, 650
Gothenburg, 122

Zinc Oxide—
Antwerp, 40 brls. Tyne S. S. Co.

Zinc Sulphate—
Gothenburg, 25 bgs.

GOOLE.

Week ending June 11th.

Albumen—
Boulogne, 2 cs.

Alizarine—
Rotterdam, 82 cks. 4 cs.

Alkali—
Calais, 3 cks.

Aniline—
Amsterdam, 12 cks.
Rotterdam, 193 61 cs.

Antimony—
Boulogne, 1 ck.

Bark—
Antwerp, 1,396 bgs.
Ghent, 113

Barytes—
Antwerp 40 bgs
Rotterdam, 50

Caoutchouc—
Boulogne, 6 cks.

Carbon—
Rotterdam, 4 cs.

Colours—
Hamburg, 24 cks. 3 cs.

Dyestuffs—
Boulogne, 167 cks.
Rotterdam, 242 44 cs. 1 pk.

Dyewood—
Hamburg, 7 t.

Farina—
Delfszyhl, 270 bgs.
Hamburg, 200

Fustic—
Antwerp, 280 t.

Glue—
Boulogne, 1 ble.

Glycerine—
Hamburg, 4 dms.

Grease—
Dunkirk, 35 cks.

Indigo—
Rotterdam, 1 brl.

Manure—
Calais, 1,530 bgs.

Ochre—
Calais, 38 cks.

Potash—
Calais, 4 dms.
Dunkirk, 2 cks. 40
Hamburg, 10

Salt—
Hamburg, 5 cs.

Saltpetre—
Hamburg, 5 cks.

Soda—
Rotterdam, 7 brls. 7 dms.

Sugar of Lead—
Hamburg, 15 cks.

Varnish—
Boulogne, 10 cks.
Hamburg, 1

Waste Salt—
Hamburg, 500 bgs.

GRIMSBY.

Week ending June 4th.

Barytes—
Hamburg, 1 bg.

Caoutchouc—
Antwerp, 10 cs.
Hamburg. 2
Rotterdam, 2

Charcoal—
Malmo, 480 bgs.

Colours—
Antwerp, 74 cks. 126 pks.
Hamburg, 4 58
Rotterdam 6

Dyestuffs (*otherwise undescribed*)
Dieppe, 28 cks.

Saltpetre—
Antwerp, 250 bgs.

EXPORTS OF CHEMICAL PRODUCTS OF THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 8th.

Acids—
Townsville, 40 cs. £30
Madras, 10 c. 14

Alkali—
Townsville, 1 t. £7
Hamburg, 1 5 c. 48
Napier, 2 55
Rio de Janeiro, 38 cks. 32

Alum—
Salonica, 10 t. £56

Ammonia—
Karachi, 1 c. £20
Hankow, 8 20
Mauritius, 2 dms. 6 cs. 11

Ammonium Carbonate—
Bombay, 6 c. £11
B. Ayres, 3 t. 8 87
Antwerp, 1 18 48

Ammonium Chloride—
Trebizonde, 2 t. £66
Santos, 15 c. 37
Samsoun, 10 16
Antwerp, 10 16
Batoum, 3 98

Ammonium Muriate—
Dusseldorf, 5 t. £88

Ammonium Nitrate—
Auckland, 1 t. £19

Ammonium Sulphate—
Amsterdam, 40 t. £360
Antwerp, 15 140
Bremen, 199 1,860
Hamburg, 30 285
Barbadoes, 51 1 c. 530

Arsenic—
St. Petersburg, 5 t. 2 c. £107
Napier, 330 dms. 299
Timaru, 20 12

Boracic Acid—
Dusseldorf, 18 c. £27

Borax—
Dusseldorf, 5 t. 3 c. £80
Townsville, 2 4 cks. 48
Wellington, 10 9
Mannheim, 5 84

Carbolic Acid—
Yokohama, 6 t. 19 c £295
Montreal, 8 dms. 62
Ludwigshafen, 38 cks. 158
Gisborne, 26 pks 25
Calcutta, 70 40
Hong Kong, 160 40
Rotterdam, 4 t. 18 c. 108

Caustic Potash—
Melbourne, 1 dm. £6
Noumen, 13 c. 20

Caustic Soda—
Delagoa Bay, 9 c. £9
Auckland, 7 5
Wellington, 5 12
Cape Town, 6 6
Singapore, 6 6

Chemicals (*otherwise undescribed*)
Calcutta, 30 pks. £97
Perth, 56 117
Boulogne, 2 cs. 36
Montreal, 16 dms. 26
Karachi, 6 brls. 25
Penang, 6 c. 70
Adelaide, 76 cs. 156
Amsterdam, 6 kgs. 35
Auckland, 14 12 72
Bombay, 6 cks. 34 107
Brisbane, 10 pks. 53
Sydney, 5 23
Hamburg, 42 35 dms. 362
Gibraltar, 19 cks. 15
Napier, 4 cs. 16
Cologne, 6 56
Melbourne, 18 pks. 2 157
Wellington, 27 93
Rangoon, 1 [illegible]
Rotterdam, 1 ck. 36 [illegible]
E. London 5 [illegible]
Rio de Janeiro, 6 [illegible]
Malta, 5 pks. 2 [illegible]
Singapore, 2 t. 3 c. [illegible]
Tokio, 18 [illegible]

Citric Acid—
Sydney, 2 kgs. 5 c. £[illegible]
Brisbane, 1 [illegible]
St. Petersburg, 7 t. 9 [illegible]
Colombo, 1 ck. 1 [illegible]
Malta, 2 [illegible]
Amsterdam, 10 [illegible]
Galatz, 10 [illegible]
Madras, 1 [illegible]
Auckland, 1 cs. [illegible]
Bermuda, 1 [illegible]

Coal Products—
Aniline
Calcutta, 2 cs. £[illegible]
Benzol
Calais, 25 puns. £[illegible]
Treport, 50 cks. [illegible]
Rotterdam, 39 [illegible]
Carbolic Acid
Rotterdam, 25 brls. £[illegible]
Napier, 100 dms. [illegible]
Suez, 10 [illegible]

Creosote Oil
Helsingfors, 50 t. £39
Naphtha
Treport, 26 brls. £80
Naphthaline
Hamburg, 6 cks. £52
New York, 89 78
Paris, 49 60 bgs. 103
Bremerhaven, 5 12
Pitch
Antwerp, 1,544 t. £1,696
Alexandria, 200 brls. 49
Hochfeld, 270 369
Helsingfors, 250 240
Malaga, 1,500 1,638
Sydney, 100 dms. 19
Toronto, 20 bgs. 28
Montreal, 376 cks. 104
Dunkirk, 580 640
Boston, 1,000 396
Hong Kong, 1,630 510
Prussian Blue
Antwerp, 2 cks. £34
Tar
Pt. Elizabeth, 320 dms. £17
Danzig. 250 brls. 115
Colombo, 5 5 rnlts. 15
Helsingfors, 1,200 cks. 1,638
Singapore, 6 13
Napier, 25 dms. 7
Cologne, 200 120
Toluol
Hamburg, 3 cks. 2 dms. £43
Boulogne, 24 174

Coal Products *(otherwise undes.)*—
Melbourne, 2 pks. £20
Cape Town, 10 cks. 8
Wellington, 20 dms. 5

Copper Sulphate—
Paris, 55 t. £907
Treport, 15 249
Bremen, 15 249
Dunkirk, 10 168

Cream of Tartar—
Lyttleton, 15 c. £55
Adelaide, 3 11
Cook Town, 2 cs. 8
Otago, 1 t. 5 91
Sydney, 1 74
Hamburg, 10 kgs. 38

Disinfectants—
Singapore, 100 dms. £11
Rangoon, 6 t. 25
Auckland, 10 cs. 26
Pt. Elizabeth, 4 9 c. 80
Brisbane, 15 45
New York, 15 dms. 8 22
Hong Kong, 50 pks. 27
Karachi, 100 cks. 315
Penang, 200 65
Bangkok, 60 45
Hiogo, 200 95
Lisbon, 6 c. 34
E. London, 2 16
Amsterdam, 3 5
Calcutta, { 200 5 / 3 t. 2,735 dms. } 533

Glycerine—
Hamburg, 45 t. 13 c. £1,226

Hyposulphite of Lime—
Philadelphia, 10 c. £173

Insecticides—
Durban, 1 c. £10

Iron Sulphate—
Sydney, 5 t. 5 c. £11

Manure—
Sydney, 6 c. £12
Barbadoes, 286 t. 8 2,362
Bundaberg. 30 3 418
Jersey, 20 2 120
Antigua, 16 141

Mercuric Oxide—
Hamburg, 4 cs. £124

Phosphates—
Grenada, 10 t. £25

Phosphorus—
Otago, 5 c. £40
Wellington, 8 cs. 70
Sydney, 22 177
Oporto, 3 25
Pt. Chalmers, 13 128

Potash—
Antwerp, 6 t. 10 c. £260
Toronto, 1 6 129
Shanghai, 2 5
New York, 6 43
Brussels, 6 30

Potash Salts—
Auckland, 13 t. 5 c £1,527

Potassium Bicarbonate—
Philadelphia, 3 t. 11 c. £93

Potassium Carbonate—
Rio de Janeiro, 13 c. £14

Potassium Chlorate—
Demerara, 1 t. 1 c. £30
Hong Kong, 5 9
Wellington, 12 27

Potassium Cyanide—
Pt. Elizabeth, 2 t. 10 c. £257
Townsville, 30 cs. 385
Melbourne, 50 537
Delagoa Bay, 10 14 850
Auckland, 6 728
Fremantle, 17 15 1,915

Potassium Muriate—
Channel Is., 1 t. £9

Potassium Permanganate—
Bombay, 5 c. £14

Potassium Prussiate—
Adelaide, 6 c. £15
Montreal, 4 cks. 63
Gothenburg, 5 24
Genoa, 4 t. 19 550

Salt Cake—
Antwerp, 285 t. £499

Saltpetre—
Wellington, 25 c. £30
Auckland, 1 t. 20
Otago, 1 20
Oporto, 7 10 150
Santos, 4 84
Lisbon, 1 16 34
Bahia. 9 10 197

Sheep Dip—
Calcutta, 2,525 dms. £165
Adelaide, 50 20 kgs. 51
Napier, 12 2 cs. 15
Cape Town, 10 c. 14
Durban, 12 t. 18 323
Wellington, 11 7
B. Ayres, { 29 18 / 100 dms. } 1,197

Soda—
Mombasa, 1 t. £8

Soda Ash—
Auckland, 20 t. 11 c. £82

Soda Crystals—
Cape Town, 1 t. 12 c. £5
Adelaide, 10 28
Albany, 5 3 13

Sodium Bicarbonate—
Cape Town, 12 c. £8
Hong Kong, 1 t. 2 7
Singapore, 1 12 11

Sodium Chlorate—
New York, 5 t. £180

Sodium Hyposulphite—
Pt. Elizabeth, 1 t. £6

Sodium Nitrate—
Antigua, 30 t. £245

Sodium Prussiate—
Antwerp, 10 t. £475

Sodium Silicate—
Napier, 5 t. 7 c. £46

Sodium Tartrate—
Melbourne, 5 c. £16

Sulphur—
Pt. Elizabeth, 100 kgs. £42
Cape Town, 4 t. 10 c. 38

Sulphuric Acid—
Rio de Janeiro, 3 t. £33

Tartaric Acid—
Adelaide, 14 c. £76
Otago, 2 28
Malta, 2 14
Brisbane, 12 68
Calcutta, 2 cs. 12
Wellington, 5 28

LIVERPOOL.

Week ending June 8th.

Alkali—
Acajutla, 4 t. 6 c. 1 q. £24
Sao Paulo, 9 19 40
Rio de Janeiro, 50 5 3 226
Barcelona, 7 14 1 30
Sfax, 1 7 2 6
Sourabaya, 6 2 1 25
Antwerp, 14 5

Alum—
Salaborn, 8 c. £3
Melbourne, 4 t 8 4 q. 19
Braila, 5 4 25
Madras, 11 3 61

Ammonia—
Savanilla, 4 c. £12

Ammonium Carbonate—
Melbourne, 10 c. £18
Hamburg, 1 t. 2 42
St. John's, Nfd., 3 6
Marseilles, 17 24
Helsingfors, 11 3 q. 15
Bilbao, 1 28
Newfairwater, 2 5 69

Ammonium Chloride—
Alexandretta, 10 c. £30
Trieste, 1 t. 30
Patras, 4 5
Montreal, 15 25
Rangoon, 2 5
Alexandria, 9 15
Smyrna, 1 1 1 q. 37

Ammonium Muriate—
Genoa, 10 c. £9
Montreal, 15 13
New York, 15 t. 30

Ammonium Sulphate—
Samarang, 99 t. 4 c. £992
Valencia, 147 19 1 q. 1,295
Gd. Canary, 10 5 82
Kingston, 11 99
Las Palmas, 25 238
Torre Del Mar, 50 6 2 455
Boston 10 88
Lina Deldlau, 10 6 94
Baltimore 50 9 476
Cullera, 40 380
St. Nazaire, 50 270

Anhydr us Ammonia—
Maranham, 3 q. £6

Bleaching Powder—
Bilbao, 10 t. 7 c.
Bombay, 6 cs.
Boston. 746 cks.
Cambrai, 18
East St. Louis, 21
Genoa, 296
Ghent, 75
Karachi, 11
Leghorn, 123
Maranham, 6
Messina, 11
Montreal, 149 pks.
Muncil, 132
Naples, 67
Newport News, 306
New York, 981 45 bxs.
Otsega, 27
Penang. 10
Philadelphia, 377
Rio de Janeiro, 19
Rotterdam, 25
Valparaiso, 20 brls.
Venice, 100 13
Cornwall 43
Lisbon, 30
Milwaukee, 111

Boracic Acid—
Antwerp, 1 t. £26
Hamburg, 2 2 c. 2 q. 53
Victoria, B.C., 5 5
Vancouver, 4 5

Borax—
M. Video, 6 c. £5
Montreal, 12 t. 182
Copenhagen, 5 4
Varna, 4 3
Antwerp. 1 15
Hamburg, 10 11 153
Stettin, 10 9 152
Genoa, 1 12 27
Tampico, 1 16
Vancouver, 1 8 18
Gijon, 3 19 3 q. 62
Sydney, 2 2 35
Alexandria, 3 brls. 5
Carlshamn, 1 1 17
Christiania, 1 30

Calcium Chloride—
New York, 15 t. 1 c. £30
Gothenburg, 60 12 144
Newcastle, 2 9 5

Carbolic Acid—
Odessa, 1 t. 13 c. 3 q. £126
New York. 4 8 3 316
Copenhagen, 5 22
Hiogo, 6 15 316

Caustic Potash—
Melbourne, 3 t. 4 c. £97
Adelaide, 3 4

Caustic Soda—
Alexandria, 37 dms.
Amsterdam, 75
Ancona, 20
Antwerp, 8
Bahia, 120
B. Ayres, 90
Calcutta, 173
Callao, 20
Canea, 20
Catania, 68
Chihuahua, 25 kgs.
Constantinople, 50
Copenhagen, 37 kgs.
Coquimbo, 10
East St. Louis, 40 pks.
Eten, 5
Galatz, 40
Genoa, 504
Hamburg, 201
Hiogo, 1,080
Ibrail, 18
Konigsberg, 30
Louisville, 150
Malaga, 40
Melbourne, 171
Messina, 60
Milwaukee, 150
M. Video, 150
Montreal, 90
Nagasaki, 400
Naples, 303
Newcastle, 65
N. Orleans, 50
New York, 250 55 bxs.
Odessa, 25
Oporto, 15
Para 12
Paris 15
Parnahyba. 20
Philadelphia, 120
Pt. Natal, 86
Quebec, 50 10
Riga, 160
Rio de Janeiro, 45
Rotterdam, 36
Rouen. 15
Samarang, 45
Santander, 5
Sarina, Ont., 35
Stettin, 30
Sydney, 48
Talcahuana 25
Tambo de More, 10 cs.
Tampico, 477
Townsville, 36
Trieste, 47
Valparaiso, 155
Vancouver, 25
Venice, 75
Victoria, B.C., 50
Woodstock, 50
Adelaide, 65
Barcelona, 340
Boston, 150
Chicago, 50
Christiania, 10
La Guayra, 30
Lisbon, 30
Rangoon, 8
Santos, 25
Seville, 200

Chemicals *(otherwise undescribed)*
Valencia, 1 t. 10 c. £21
Tampico, 3 4 50
Philadelphia, 20 5 592

China Clay—
Baltimore, 950 cks.
Boston, 2,232 t.
Madras, 80
New York, 219
Philadelphia, 250 100
Rio de Janeiro, 19 13 c.
Maranham, 20

Coal Products—
Aniline Oil
Barcelona. 10 cks.
Aniline Salts
Lisbon, 2 cks.
Madras, 3 brls.
Venice, 20
Tar
Galatz, 50 brls.
Sierra Leone, 35 kgs.

Copper Sulphate—
Piræus, 5 t. 5 c. 3 q. £84
Venice, 57 15 1 98
Genoa, 100 11 3 1,546
Naples, 65 8 1 011
Galatz, 16 18 271
Bordeaux, 397 18 6,197
Nantes, 1 5 3 1,869
Rio de Janeiro, 5 2 5
Antwerp. 18 14
Alexandria, 3 5 2 51
Ghent, 29 18 3 459
Libau, 1 3 2 19
Constantinople, 1 2 2 17
Batoum, 100 2 3 1,[illegible]
Danzig. 7 9 1 174
Copenhagen, 1 1 16
M. Video, 9 15 3 151
Rouen, 14 18 2 243
Oporto, 12 6 193
Rotterdam, 4 18 80
Wellington, N.Z., 10 8
Leghorn, 2 7 3 37
Varna, 1 3 17

Copperas—
Tampico, 3 t. 9 c. £6
Valparaiso, 6 10

Cream of Tartar—
Maranham, 1 c. 2 q. £6

Disinfectants—
Rangoon, 3 c. 3 q. £8
Calcutta, 3 t. 10 22

Dried Blood—
Dunkirk, 486 bgs. £311
Nantes, 12 t. 6 c. 1 q. 86
Teneriffe, 20 115

Glycerine—
Rangoon, 19 c. 3 q. £60
Montreal, 15 t. 708

Iron Oxide—
Gijon, 1 t. 15 c. 1 q. £10

Magnesia—
M. Video, 5 cs.
New York, 10
Odessa, 110
Rouen, 30
Stockholm, 30 4 cks.
Constantinople, 1
Genoa, 21 pks.
Paris, 25

Magnesium Sulphate—
Lisbon, 43 bgs.

Manure—
Las Palmas, 30 t. £115
St. Nazaire, 45 2 c. 5 q. 187
Salta, 2 4 60
New York, 231 1,979
Bordeaux, 28 17 110

Oxalic Acid—
New York, 6 t. 17 c. 2 q. £189

Paint—
Alexandria, 296 pks.
Antwerp, 6 kgs. 6 cks.
Beyrout, 13
B. Ayres, 21 52 cs.
Cameroons, 10
C. C. Castle, 1
Cape Town, 20 4
Cartagena, 22
Ceara, 2
Charlotte Town, 8 dms.
Colombo, 7 cks.
Curacao, 70
Eten, 30
Ibrail, 4
Maranham, 3 cs.
Nassau, 72
Ottawa, 10 cks
Para, 200 25 dms.
Port Said, 19
Rio G. Do Sul, 3 cks.
Santa Catharina, 8
Shanghai, 8
Sierra Leone, 20 2
Smyrna, 200
Tampico, 10 cs.
Valparaiso, 1
Venice, 75
Benguella, 20 brls.
Havre, 15
M. Video, 25
Sydney, 9 cks.
Talcahuano, 80

Painter's Colours—
Antwerp, 30 dms. 21 cks.
Bahia, 106 pks.
Baltimore, 341
Boca, 5 brls.
Callao, 56
Mossel Bay, 62
Para, 42
Savanilla, 190
Tocopilla, 20
Chiclayo, 8
Gijon, 1 cs.
Guayaquil, 12
Honda, 4
Ibrail, 2 29
Johannesburg, 108
Karachi, 132
Madras, 4

Paraffin Wax—
Jaffa, 5 cs.
Naples, 15 bgs.
Paris, 10
St. Nazaire, 8

Phosphate Rock—
New York, 48 t. 10 c. £150

Phosphorus—
Hiogo, 2 t. 5 c. £380
Shanghai, 1 8 235

Potassium Bichromate—
Constantinople, 1 t. 1 c. £39
Montreal, 4 5 141

Potassium Carbonate—
New York, 14 t. 15 c. £278

Potassium Chlorate—
M. Video, 18 c. £30
St. Petersburg, 15 t. 450
Philadelphia, 27 10 810
Gothenburg, 19 616
Montreal, 6 4 184
Hiogo, 5 160
Odessa, 5 148
Christiania, 2 64
Hamburg, 6 9
Mollendo, 4 8
Sydney, 5 140
Vera Cruz, 4 110
Oporto, 5 7

Potassium Prussiate—
Genoa, 5 t. 8 c. £268

Salt—
Abonnema, 10 t.
Adjuah, 5
Algoa Bay, 600 bgs. 100 sks.
Antwerp, 245 t.
Bakana, 20
Baltimore, 400
Barbadoes, 100 1,700
Beyin, 7 10 c.
Boston, 320
Brussels, 100 cs
B. Ayres, 50
Burutu, 300
Calcutta, 1,576 5 c.
Charlotte Town, 1,831
Christiania, 15
Conakry, 80
Degama, 100
Dixcove, 5
Geelong, 15
Ghent, 145
Harlingen, 80
Halifax, 722
Honolulu, 10
Jamaica, 18
Lagos, 200
Laurvig, 214
Melbourne, 573 6
Miramichi, 300
Monrovia, 50 6
Montreal, 1,687
Newcastle, 252
Newfairwater, 295
New York, 113 4
Philadelphia, 30
Ricton, 250
Rangoon, 2,575
Rouen, 10
St. John's, N'fd., 20
Shediac, N.B., 350
Svendborg, 330 3
Sydney, 170
Townsville, 1,500
Victoria, B. C., 50
Wellington, 85
Wiborg, 1,135
Winnebah, 7 14
Camercons, 33 9
Cartagena, 4 cs.
Chicago, 201 2 c.
Copenhagen, 450
Gibraltar, 50 cs.
Jersey, 100
Konillon, 290 3 c.
Memel, 310
N. Orleans, 800
Sette Cama, 25
Stockholm, 200
Valparaiso, 29 19

Salt Cake—
Baltimore, 25 t. 1 c. £40
Delagoa Bay, 9 6 24

Saltpetre—
Cabedello, 1 t. 10 c. £36
Paraiba, 1 12 2 q. 34

Sheep Dip—
B. Ayres, { 5 t. 15 c. / 100 dms. £256
Calcutta, 1 t. 14 2 q. 20
M. Video, 1 18 1 60
Pt. Natal, 100 dms. 175
Sydney, N.S.W., 11 t. 150

Soap—
Accra, 120 bxs.
Addah, 20
Alexandria, 120 16 cks.
Algoa Bay, 2,207 186 cs.
Amboina, 50
Barbadoes, 2 006
Benin, 250
Bayin, 100
Boston, 20 brls. 1
Calcutta, 100 250 bdls.
C. C. Castle, 283 6 cs.
Cape Town, 20
Constantinople, 2
Corfu, 4
E. London, 2
Galata, 20
Ghent, 110
Gibraltar, 50
Guayaquil, 1
Hamburg, 326
Havre, 2 cks.
Johannesburg, 100 100 90 dms.
Kingston, 5
Lagos, 117
Malta, 31 92
Mendoza, 4
Montreal, 281 kgs.
New York, 8 pks.
Nicosia, 13
Old Calabar, 2,600 bxs.
Penang, 427
Pt. Limon, 1
Pt. Natal, 2,262 5
Pretoria, 70
Quittah, 20
Rotterdam, 460
St. Gall, 240
San Juan Del Sur, 100
St. John's, 240 bxs. 2
St Lucia, 295
Savanilla, 5
Shanghai, 9,770
Sierra Leone, 145
Singapore, 4,421
Surinam, 100
Sydney, 9,173
Tamatave, 395
Toronto, 1
Trinidad, 2,508
Valparaiso, 30 4 cks.
Vera Cruz, 1
Warri, 400
Yokohama, 6
Zanzibar, 150 bdls.
Batavia, 969
Bombay, 31
Brussels, 2,460
B. Ayres, 2
Chama, 50
Corinto, 100
Delagoa Bay, 1,440
Dunedin, 3
Fremantle, 850
Kimberley, 10
Manaji, 25
Pt. Elizabeth, 50
Salt Pond, 60
Victoria, B. C., 1,650

Soda—
Alexandria, 30 brls.
Gijon, 10
Jersey, 150 bgs.
Malta, 30 kgs. 50
Mollendo, 2 cks.
Montreal, 223

Soda Alkali—
Valencia, 500 bgs.

Soda Ash—
Aalborg, 80 bgs.
Bari, 250
Boston, { 32 tcs. / 1,480 228 cks.
B. Ayres, 150 brls.
Calcutta, 84 pks. 40
Callao, 30
Catania, 50 bgs.
Copenhagen, 250
Genoa, 600
Gothenburg, 44
Helsingborg, 50
Hiogo, 400
Lagos, 26
Leghorn, 164 39
Libau, 600
Maranham, 70 cs. 100
Melbourne, 41
Naples, 350
N. Orleans, 38 tcs.
New York, 160 63 18
Para, 5
Perth, 66
Philadelphia, 2,340 59
Pt. Elizabeth, 91
Rio de Janeiro, 15 brls.
San Francisco, 403
Santos, 65
Sao Paulo, 20
Sherbrooke, 800
Stettin, 400
Sydney, 344
Talcahuano, 50
Trieste, 100
Venice, 59
Barcelona, 30
Christiania, 12 pks.
Constantinople, 50 bgs.
Fairwater, 500
Gijon, 2
Oporto, 15
Varna, 30

Soda Crystals—
Alexandria, 452 bls.
Bari, 50 bgs.
Boston, 260
Halifax, 38 kgs.
Penang, 10 cks.
Pt. Natal, 50
St. John's, N'fld., 20
Talcahuano, 34
Vancouver, { 40 / 220 bgs.

Sodium Bicarbonate—
Alexandria, 50 kgs.
Amsterdam, 20
Antwerp, { 10 / 27 pks. / 16 cks.
Bordeaux, 280
Calcutta, 172
Fremantle, 149
Galatz, 4
Halifax, 112
Hamburg, 33
Hiogo, 1,000
Ibrail, 31 17
Lisbon, 40
Malaga, 75
Malta, 14
Marseilles, 90
Melbourne, 267 pks.
Montreal, 330
Odessa, 100
Oran, 30
Para, 10 10 brls.
Perth, 100
Port Limon, 20
Pretoria, 10 bgs.
Quebec, 5
Rangoon, 4 cks.
Riga, 440 kgs.
Rouen, 272 73
Singapore, 11
Smyrna, 10
Sydney, 550
Tampico, 30
Toronto, 95
Trinidad, 40
Vancouver, 60
Varna, 20
Venice, 120
Wellington, { 20 bgs. / 170 kgs.
Barbadoes, 20
Barcelona, 150
Bilbao, 50
Bombay, 205
Catania, 20 bgs.
Christiania, 20 pks.
Constantinople, 252 kgs.
Copenhagen, 4 cks.
Dunedin, 20
Gibraltar, 20
Jersey, 30 bgs.
Karachi, 75
Madras, 200 kgs.

Sodium Carbonate—
Boston, 56 brls.
New York, 112

Sodium Chlorate—
Barcelona, 190 pk
Bari, 18 dr
Hamburg, 4 brls.

Sodium Hyposulphite—
Calcutta, 14 cks.

Sodium Sulphate—
Bombay, { 150 bgs. / 100 kgs.
Santos, 20

Starch—
Copenhagen, 12 cs.
Piræus, 40
Townsville, 400

Sulphur—
E. London, 7 t. 10 c.
Montreal, 1,075 18
M. Video, 17
Natal, 6 3

Sulphuric Acid—
Maranham, 1 t. 2 c.

Superphosphate—
Barcelona, 36 t. 5 c.
Cape Town, 100
Nantes, 78 2 1
St. Nazaire, 305 2 1
Teneriffe, 15

Varnish—
Antwerp, 4 brls.
Batavia, 6
B. Ayres, 7 cks.
Iquique, 20
Johannesburg, 3
Lisbon, 1
Madras, 35
Syra, 6

White Lead—
Delagoa Bay, 60 kgs.
Townsville, 500
St. John's, N'fd., 5 cks.
Zinc Chloride—
Bombay, 7 t. £124
Oporto, 4 10 c. 65
Zinc Sulphate—
Montreal, 6 t. 10 c. £46

MANCHESTER.

Week ending June 8th.

Amido Salts—
Switzerland, 27 cks.
Ammonium Chloride—
Beyrout, 15 brls.
Aniline Colours—
Germany, 5 kgs 1 cs.
Aniline Oil—
Germany, 15 dms.
Russia, 18
Aniline Salts—
Germany, 20 brls.
Russia, 14 pns.
Carbolic Acid—
Russia, 80 cks.
Caustic Soda—
Alexandria, 30 dms.
Chemicals (*otherwise unaescribed*)
Antwerp, { 20 kgs. 3 cks.
Switzerland, 10
Tripoli, S., 20 brls.
Colours—
Germany, { 5 kgs. 8 cks. 1 cs.
Extracts—
Christiania, 30 cks.
Sweden, 30
Naphthaline—
Germany, 3 cks.
Pitch—
Belgium, 563 t. 8 c.
Sodium Bicarbonate—
Tripoli, S., 20 kgs.
Tallow—
Germany, 9 cks.
Toluol—
Germany, 20 dms.
Turpentine—
Alexandria, 10 dms.
Varnish—
Germany, 5 brls.

GLASGOW.

Week ending June 9th.

Ammonium Carbonate—
Drontheim, 6¾ c.
Ammonium Sulphate—
Amsterdam, 206 t. 15 c.
Barbadoes, 152 12
Kingston, 6 10
Penang, 10 5½
Rotterdam, 101 4
Trinidad, 11 2
Borax—
Canada, £27
Montreal, 67
Caustic Soda—
B. Ayres, 29 t. 18 c.
Chemicals (*otherwise undescribed*)
Montreal, £70
Coal Products—
Benzine
France, £822
Creosote Oil
France, £1,616
Pitch
Antwerp, 492 t.
Canada, £125
Hamburg, 337 14 c.
Tar
Bombay, £26
Christiania, 33
Hamburg, 12 t. 18 c.
Johannesburg, 50
Rangoon, 99
Tar and Pitch
Montreal, £90
Farina—
U.S.A., £73
Gelatine—
U.S.A., £513
Linseed Oil—
Canada, 10 t. 4¾ c.
Litharge—
Christiania, £29 15s.
Johannesburg, 45
Manganese (Recovered)—
Rotterdam, 1 t. 7 c.
Manure—
Barbadoes, 25 t.
New York, 100
Trinidad, 50
Paint—
Bombay, £129
Natal, 122
Painters' Colours—
Rangoon, £196
Rosin Oil—
Canada, £23
Soap—
Grenada, 1 t. 6¼ c.
Rangoon, 2 2½
Starch—
Rotterdam, £130
Sulphuric Acid—
Rangoon, £299
Superphosphate—
Penang, 50 t.
Tallow—
Rangoon, 2 t. 6¼ c.
Transvaal, 2
Ultramarine—
U.S.A., £38
White Lead—
Montreal, £150

HULL.

Week ending June 4th.

Alkali—
Genoa, 140 cks.
Alum—
San Francisco, 62 cks.
Ammonium Sulphate—
Stettin, 796 bgs.
Bleaching Powder—
Boston, 105 cks.
Stettin, 20
Chemicals (*otherwise undescribed*)
Amsterdam, 147 cks.
Antwerp, 1 26 cs.
Bergen, 2
Copenhagen, 8
Constantinople, 20
Christiania, 2 2 15 pks.
Drontheim, 8
Genoa, 26
Gothenburg, 5 33
Hamburg, 36 58
Konigsberg, 1
Marseilles, 40
Naples, 9
Odessa, 252
Rotterdam, 4 82
Stettin, { 5 500 bgs. 10
Colours—
San Francisco, { 10 kgs. 117 cks.
Cottonseed Oil—
Amsterdam, 842 c.
Antwerp, 1,103
Copenhagen, 237
Dunkirk, 353
Gothenburg, 101
Hamburg, 661
Marseilles, 2,307
Rotterdam, 161
Stockholm, 198
Stettin, 200
Dyestuffs (*otherwise undescribed*)
Boston, 3 cks.
Linseed Oil—
Amsterdam, 103 c.
Constantinople, 17
Christiania, 353
Christiansund, 17
Drontheim, 112
Hamburg, 84
Rotterdam, 105
Manure—
Dunkirk, 1,692 bgs.
Stettin, 2,000
Naphthaline—
Riga, 240 bgs.
Paint—
Antwerp, 8 cks.
Drontheim, 2
Stockholm, 11 brls.
Painters' Colours—
Amsterdam, 1 ck.
Antwerp, 11 4 cs. 58 dms.
Boston, 74
Bremen, 4
Copenhagen, 4 3
Constantinople, 390 pks.
Christiania, 1
Drontheim, 5 1
Genoa, 69
Gothenburg, 6 90 dms.
Ghent, 1
Hamburg, 12 3
Harlingen, 9
Konigsberg, 7
Libau, 49 1
Leghorn, 64
New York, 20
Odessa, 41
Rotterdam, 21 12
Stockholm, 5
St. Petersburg, 1
Stettin, 37
Pitch—
Antwerp, { 308 t. 18 cks.
Riga, 1 cs.
Soap—
Amsterdam, 100 cs.
Bergen, 1
Drontheim, 70
Tallow—
Amsterdam, 7 cks.
Genoa, 15 brls.
Stockholm, 12
Tar—
Amsterdam, 26 brls.
Christiania, 10 cks.
Dunkirk, 30
Rotterdam, 21
Stockholm, 10
Varnish—
Antwerp, 10 cks.
Bremen, 1 dm.
Bergen, 2
Gothenburg, 1 cs.
Ghent, 4
Rotterdam, 6
Stockholm, 2
Stettin, 12

TYNE.

Week ending June 4th.

Alkali—
Christiania, 2 t. 14 c.
Hamburg, 5 13
St. Petersburg, 5 14
Ammonia—
Rotterdam, 107 t.
St. Petersburg, 15
Ammonium Chloride—
St. Petersburg, 19 t. 10 c.
Ammonium Sulphate—
Hamburg, 110 t. 4 c.
Anthracene—
Rotterdam, 1 t. 14 c.
Antimony—
Barcelona, 1 t.
Hamburg, 2 10 c.
New York, 30
St. Petersburg, 10
Arsenic—
Copenhagen, 1 t.
Barium Binoxide—
Rotterdam, 12 t. 4 c.
Barytes—
St. Petersburg, 10 t.
Barytes Carbonate—
Copenhagen, 4 t. 1 c.
Hamburg, 1 4
Bleaching Powder—
Antwerp, 35 t. 11 c.
Bergen, 6
Christiania, 11 7
Copenhagen, 8 12
Horsens, 2 13
Konigsberg, 9 13
New York, 12 9
Rotterdam, 17
St. Petersburg, 156 10
Caustic Soda—
Aarhuus, 1 t. 9 c.
Antwerp, 4 18
Barcelona, 45 10
Bergen, 7
Copenhagen, 1 10
Hamburg, 54 4
New York, 66 19
Rotterdam, 30 14 1 q.
St. Petersburg, 74 18
Chemicals (*otherwise undescribed*)
Antwerp, 11 c.
Creosote Oil and Tar—
Aalborg, 1 t. 7 c.
Flour Spar—
New York, 106 t.
Litharge—
Antwerp, 1 t. 1 c.
Hamburg, 15
New York, 1 14
Magnesia—
Antwerp, 2 c.
Barcelona, 4 t. 18
Hamburg, 4
Manure—
Hamburg, 4 c.
Orange Mineral—
New York, 10 c.
Paint—
Antwerp, 1 t. 14 c.
Copenhagen, 1
Hamburg, 1 5
Rotterdam, 6
Soap—
Rotterdam, 2 q.
Soda—
Christiania, 15 t. 9 c.
New York, 24 7
Rotterdam, 6
Soda Ash—
Bergen, 10 t. 13 c.
Konigsberg, 100 1
Sodium Hyposulphate—
New York, 10 t.
Sulphur—
Christiania, 4,000 bgs.
Tar—
Copenhagen, 24 t. 16 c.
Rotterdam, 17 lbs. 1 q.
Vadsoe, 5 cks.
Turpentine—
Rotterdam, 17 lbs. 1 q.
White Lead—
Narva, 5 c.
St. Petersburg, 19 t. 15
Witherite—
New York, 30 t.

GOOLE.

Week ending June 1st.

Benzol—
Boulogne, 73 cks.
Bone Size—
Amsterdam, 50 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 20 cks.
Ghent, 4
Coal Products (*otherwise undes.*)—
Boulogne, 36 cks.
Ghent, 5 cks. 20 cs.
Rotterdam, 15 3
Dyestuffs (*otherwise undescribed*)
Ghent, 14 cks.
Grease—
Dunkirk, 30 cks.
Ghent, 1
Logwood—
Hamburg, 2 t.
Manure—
Ghent, 141 bgs.
Painters' Colours—
Antwerp, 2 cks.
Boulogne, 9
Ghent, 2 dms.
Hamburg, 4
Rotterdam, 4 cs.
Pitch—
Antwerp, 600 t.

GRIMSBY.

Week ending June 4th.

Caoutchouc—
Esbjerg, 1 cs.
Malmo, 3
Chemicals (*otherwise undescribed*)
Dieppe, 3 cks. 5 cs.
Coal Products (*otherwise undes.*)—
Dieppe, 26 pks.
Rotterdam, 24 cks.
Painters' Colours—
Antwerp, 1 ck.
Hamburg, 2
Rotterdam, 1
Quicksilver—
Port au Prince, 400 btls.

PRICES CURRENT.

WEDNESDAY, JUNE 15TH, 1898.

PREPARED BY MESSRS. HIGGINBOTTOM AND CO., 116, PORTLAND STREET, MANCHESTER.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
„ Glacial	„		37/6	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅛
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3¾
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1
Arsenic, white powdered	nett per ton	17	0	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¾
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	5	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35/- & 33/-		
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	0	0
„ „ (grey) Hull	„	9	0	0
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	36	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	9
Barium Chloride	per ton	6	17	6
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6 to 65/-		
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	15	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/- to 25/-		
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	10
„ 50/90 „	„	0	0	11
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	4
Crude Naphtha 30 % @ 120° C.	„	0	0	5½
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	0	19	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
Copper	per ton	50	2	6
„ Sulphate	„	15	15	0
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	27	10	0
„ (distilled S.G. 1250°)	„	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	15	0	0
„ Litharge Flake (ex ship)	„	17	10	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	10	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	10	0
„ „ (grey) (ex ship	„	7	5	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	15	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	2	1
Naphtha (Wood), Solvent	„	0	2	7
„ „ Miscible, 60° O.P	„	0	4	0
Oils:—				
Cotton-seed	per ton	17	5	0
Linseed	„	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 70% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¾
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	6
„ Permanganate	per cwt.	3	2	6
„ Prussiate Yellow	per lb.	0	0	6¾
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	2½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „	4	0	0
„ „ (Alkali) 58 %	„ „	4	2	6
„ „ (Soda Crystals)	„ „	2	5	0
„ Acetate (ex-ship)	„	11	5	0
„ Arseniate, 45 %	„	13	0	0
„ Chlorate	per lb.	0	0	3¾
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)		8	5	0
„ „ (74 % Caustic Soda) „ „ „		8	0	0
„ „ (70 % Caustic Soda) „ „ „		7	2	6
„ „ (60 % Caustic Soda) „ „ „		6	2	6
„ „ (pure liquor 90° Tw.) „ „ „		3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	6
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Prussiate	per lb.	0	0	5¼
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	1	5	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5⅞
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	13	9
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	22	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	72	0	0
Zinc (Spelter)	„	19	17	6
„ Chloride (solution, 100° Tw.)	„	6	0	0
„ Sulphate, Crystal	„	6	7	6

THE

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AND

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LATE ADVERTISEMENTS.

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VITRIOL MAKER, with large experience, steady and reliable, excellent references, is open for Engagement; moderate wages. —Address, "Vitriol," *Chemical Trade Journal* Office, Manchester.

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PETROLEUM FINANCE.

FASHIONS are not confined to the world of pleasure; they apparently have their vogue even in the matter-of-fact world of industry and finance. This fact is particularly noticeable in regard to the flotation of new companies, in which fashions certainly prevail. The latest fashion seems to be Russian petroleum, in connection with the exploitation of which industry a number of companies have made their appearance within the last few months.

Though we do not wish in any way to reflect discredit upon any of the numerous companies which have been and are making bids for the public support, still, we feel it is desirable to issue a word of warning to those who are likely to have a weakness for investments of this nature.

In certain quarters exception has been taken to the so-called Russian petroleum boom on the ground of insufficient security in regard to the properties, it being reported that foreign capitalists have been practically prohibited from acquiring naphtha wells in Baku owing to the Imperial Government having placed difficulties in the way of obtaining the necessary concessions, without which it is impossible for foreign capitalists to hold their own in Russia. As far as this particular rumour is concerned, we think there is little cause for apprehension. Those companies which have sought for the necessary concessions do not seem to have experienced any great difficulty in obtaining the same, and there is no doubt that for a long time past the influx of foreign capital into Russia (particularly the south) has been favourably regarded in official circles.

A greater danger, it appears to us, lies in the tendency to overwork what appears to be a promising field for speculation. This fact is brought home very closely by a review of the history of the nitrate companies, an industry which at one time offered the rosiest of prospects to investors. We will not dwell upon the disconcerting developments of recent years; they are too well known to need further remark. In a more remote way, the cycling company boom teaches us the same lesson, and it is upon the experience gained from such instances that we feel justified in uttering a word of caution.

It must not be forgotten that, apart from any local difficulties in working in Russia, the petroleum trade itself is in a state of fermentation. Competition was keen enough even when the Russian and American interests were working in concert, albeit the co-operation was conducted more or less in secrecy; but recent developments have substituted active antagonism for semi-co-operation. Even the lubricating section of the petroleum industry has begun to feel the effect of the cutting influences of this competition.

It is such facts as these that investors in petroleum companies have to consider, because it remains to be proved that, even when enjoying a concession, economical production, and an efficient selling agency, the prices realised will be capable of yielding dividends. In addition, it must be

borne in mind that if the importation of low-flash oil is granted a new lease of life by the Petroleum Committee which is now considering this question, it will give the American producer a powerful lever, which they will utilise to squeeze out all would-be competitors, by devoting the extra profit made from the sale of their low-grade oil to underselling the producers of the Russian product.

It is easy to foresee that under such circumstances any but the strongest of the strong must go to the wall, for the experience of the past twenty years reveals unmistakably how it is only when millionaire meets millionaire that any hope of success in Russian oil can be entertained.

This is one side of the question which must not be overlooked, though it is quite true that possibly the influence of the Rothschild companies may check the American *clique* sufficiently to enable many of the more recently formed Russian companies to make a living out of petroleum in a way which would have been impossible in the old days of American supremacy. The chances for and against must be calculated by the individual investor according to circumstances.

HINTS ON FOREIGN TRADE.

HAMBURG.

Of *Quebracho wood* no less than 71,700,000 kilos. were brought to Hamburg, against 58,200,000 kilos. in 1896. These large importations show in themselves the important part which this article now plays in the seaborne trade of this port, and they prove that Hamburg is the leading market for it. In spite of its great importance Quebracho wood cannot, however, be said to have driven oak bark out of the field. The substitute for oak bark is chiefly now oak extract, which is imported from Austria and Hungary, or chestnut extract, which comes from France and Italy; whilst Quebracho wood has, in fact, created an entirely new industry, *i.e.*, the rapid tanning process.

The quantity of *indigo* imported here last year was 5,400 cases, against 6,050 cases in 1896, the stock on hand at the end of the year having been 950 cases. In spite of the certain prospect at the beginning of 1897 of a small crop of East Indian indigo in 1897-8 business here was very limited, and prices maintained a falling tendency.

Amongst the *industries* of this district which have attained to the comparatively greatest importance are those for manufacturing various chemical products, viz., nitrates, sulphuric and nitric acid, sulphates, boracic acid, artificial manures, dyeing and tanning extracts, essences, and particularly also different kinds of explosives. These factories now employ altogether about 4,000 workmen, against only about 1,300 10 years ago. The rapid strides made, indeed, throughout Germany by most branches of chemical industry during recent years is proved by the fact that, according to the latest trustworthy statistics the total number of chemical works registered in all parts of the German Empire was 6,144, the total number of persons employed by them being 25,440.

BARCELONA.

The business in *chemicals* from England was fairly good, but not up to that of past years. The trade in artificial *manure* has fallen off considerably, the farmers now buying raw materials and mixing them themselves instead of ordering expensive fertilizers. A large mill is being erected by an influential German company at a place called Fax, situated on the River Ebro, in the province of Tarragona, for the purpose of manufacturing caustic soda by an electrical process, and should the venture prove successful it will probably interfere greatly with the importation from Great Britain. The imports of ammonium sulphate at Valencia were 5,435 tons greater than in 1896.

GENOA.

Of the 15,000 tons of *manure* (phosphates) imported in 1897, 4,307 tons came from Germany, 2,826 tons from Austria, and 7,735 tons from America.

England and Germany are largely responsible for the increase of nearly 8,000 tons of *chemical products*.

HARBURG.

Harburg ranks as the principal centre for the *palm-kernel* crushing in Europe. During the past, crushing has constituted a good source of revenue; of late, however, this trade has been most severely handicapped through the abolition of slavery on the African coast, which had the effect of raising the cost of the raw material in such a measure that although the factories, by way of keeping working, have sold the oil below cost price, they are no longer able to compete with the substitutes of oil, and will in all probability have to abolish the production of palm oil and take to other products. But this paralysis has been outweighed by the activity displayed in the *linseed* crushing trade. Up to 1898 there was but one factory working; the good results obtained, however, caused the erection of a second plant, and although the production was doubled and all the quantity of linseed cake found its way to the same consumers in Great Britain, prices were maintained. The production was again reduced through the new factory being destroyed by fire in 1897, but it has again been erected and commenced operations.

MISCELLANEOUS.

At Spezzia, *chemicals* have diminished again in 1897. This is probably due to the fact that chemists can easily receive small supplies by parcel post from Genoa, Milan, and other large centres.

Colours and varnishes also appear to have fallen off.

The tax of 50 c. per ton, on *phosphate of lime* exported from Algeria is maintained in spite of the decree of the 25th of March, 1898, recalling the decree of the 12th of October, 1895, which among other previsions had established this tax.

American petroleum has disappeared from the market at Beirut (Turkey), and is superseded by the Russian article.

Correspondence.

**** We do not hold ourselves responsible for the opinions expressed by our correspondents.*

THE HUMOURS OF PETROLEUM LEGISLATION.

(To the Editor of the Chemical Trade Journal.)

Sir,—After due deliberation we are informed that the report of the Petroleum Committee is to be practically "no change." At least there is no sign of any recommendation to make the oil more safe.

Really, one is tempted to think that some of our legislators deliberately shut their eyes to facts, or that they are incapable of weighing the evidence placed before them. Explosion occurs again and again, but instead of dealing with the real cause it seems we are to set our wits to work and devise safety lamps that will not go wrong with dangerous oil. This is comical. Fancy an ingenious inventor who could produce a safety cannon to load right up to the muzzle, and go bang without ever a possibility of hurting anybody. He would soon be Lord High Admiral of the Spanish fleet.—Yours, &c., Jas Kay Hill.

Govan, June 21.

BORAX IN PERU AND ITALY.

The borax industry of Peru appears to be assuming some importance. In 1896, 7,350 tons, valued at £36,970, were exported, whilst in 1897, 12,464 tons, valued at £62,420., were shipped from Mollendo. The deposits are found some 20 miles in the interior from Arequipa. This product has greatly increased and improved trade in that city, owing to the number of mules and donkeys employed in the carriage down from the deposits to the railway station at Arequipa, and to the impetus given to agriculture on the adjacent lands by the cultivation of alfalfa (Lucerne) for the maintenance of these animals, the value of the alfalfa having increased fourfold in as many years; this is now one of the greatest interests that the department of Arequipa has to depend on, and apparently the supply of borax is inexhaustible.

After two prosperous years (1895 and 1896) the export of boracic acid from Leghorn has again suffered a severe drop, owing to the inability to make headway against the competition of Californian, South American, and other borates. As is always the case when the demand for the raw material declines, a little more business is done in its conversion into borax, and the export of borax is slightly in increase of last year's figure, though far enough below the average.

Inventions in 1897.—The report of the Comptroller-General of Patents shows that last year there were 30,958 applications for patents, of which about 6,000 were for inventions connected with cycling. These figures are 765, or 2·5 per cent. higher than in 1896, when the record was established by an excess of 5,131, or over 20 per cent. as compared with the previous year. Of foreign applications by far the largest number came from Germany and America, which countries contributed respectfully 2,459 and 3,084, as against 2,174 and 2,725 in 1896. Japan, from whence no applications were received in 1896, sent five last year, while China, which sent nine in 1896, fell off to three last year. Women inventors contributed 702, or nearly 2·3 per cent. of the total number of applications, about 148 being for inventions connected with articles of dress, and 106 for cycling matters. The number of readers frequenting the Patent Office Library during the year was 11,439, or a decrease of 1,956 as compared with 1896.

The Patent List.

This list is compiled from Official sources in the Manchester Technical Laboratory, under the immediate supervision of George E. Davis and Alfred R. Davis, who report professionally upon the value of Chemical Patents.

APPLICATIONS FOR ENGLISH LETTERS PATENT.

Dephosphorising Steel. J. Gordon. 12,651. June 6th.
Explosives. E. A. G. Street. 12,760. June 7th.
Explosives. E. A. G. Street. 12,761. June 7th.
Electrolysis of Liquids and Apparatus therefor. W. P. Thompson. 12,765. June 7th.
Disposing of Distillery Waste. C. A. Stevenson. 12,830. June 8th.
Electrolysis of Fused Ores, etc. J. Baxeres de Alzugaray. 12,825. June 8th.
Acid and Waterproof Articles made from Clay. W. van den Berg and T. Haass. 12,8[illegible]2. June 8th.
Substitute for Glass. G. Pelmear, W. H. Cummings, and W. R. Meggeson. 12,885. June 9th.
Soluble Nitro-Cellulose and Solvents therefor. A. de Pont. 12,962. June 9.
Saponification by Bases in the Native State. L. Rivière. 13,098. June 11.
Treating Mineral Phosphates. Electric Reduction Co. 13,134. June 11th.
Organic Products from Seaweed. A. Krefting. 13,151. June 11th.

ABSTRACTS OF LATEST COMPLETE SPECIFICATIONS.

These abstracts are specially prepared for the Chemical Trade Journal, and ALL RIGHTS *of publication are* RESERVED. *This is the earliest series of abstracts of Chemical and allied patents accessible to the public.*

An Apparatus for Indicating the Proportion of Air contained in the Waste Gases Escaping from a Boiler Furnace, or other Furnace. C. Day, 2, Parkfield Avenue, Bowling Park, Bradford. Eng. Pat., 16,192. July 8, 1897.

A large float, almost filling its metal casing, is attached to one end of a steelyard or balance beam, the other end carrying an index finger. The flue gases are aspirated through the casing, the entrance and exit of the gases being so arranged that the balance of the float shall not be affected, although the current is rapid. The index finger is set to stand at zero on the scale when the casing is full of air. The entrance of the denser flue gases causes displacement, which is registered by the index. The scale is calibrated to show varying percentages of air and flue gas. There are two figures.

Improved Process Relating to the Treatment and Production of Phosphates. E. Masson-Polet, Hannut, Belgium. Eng. Pat., 15,976. July 5 1897.

The process aims principally at treating "grey chalk." As simple fusion with fluxes does not yield a product similar to Thomas slag, it is proposed to extract the phosphoric acid by fusing with a suitable metal, and then de-phosphorising the metal. This can be effected in the ordinary blast furnace by substituting the usual limestone flux and phosphoric slag with carbonated phosphates of lime or grey chalk. The highly-phosphoric pig-iron is then de-phosphorised by the Thomas process, producing good metal and a rich slag. In a word, use "grey chalk" for limestone as a flux in iron smelting.

Improved Process for the Recovery of Zinc from Refractory Zinc-bearing Ores. J. Jones, 18, Brunswick-street, East Melbourne, Australia. Eng. Pat., 4,296. Feb. 21, 1898.

The ores are roasted and leached with water or weak acid, as may be necessary. The solution is passed through a scrubber, up which producer gas, containing ammonia, is passed. The ammonia combines with the excess acid, forming sulphate. The ammonia also precipitates the iron and other impurities, care being taken not to prolong the action sufficiently to precipitate the zinc. This solution is then run into the anode compartment of a cell (divided by a porous septum into two compartments) in which is a leaden anode. The cathode is zinc, the compartment being charged with an acid solution of zinc and ammonium sulphates. A little fine carbon or a hydro-carbon is added to the anolyte to precipitate any manganese that may be present. On the passage of the current, the zinc is deposited from the catholyte and the liberated acid kept from re-dissolving it by being fixed by the ammonia from the anolyte. At the end of the process the catholyte contains a solution of ammonium sulphate and a little zinc sulphate, while the anolyte consists of dilute sulphuric acid, a little zinc sulphate, and the precipitated impurities. The vitriol and sulphate of ammonia can of course be used again.

Improvements in the Treatment of Logwood Colouring Matter. J. E. and C. S. Bedford, both of 27, Kirkstall-road, Leeds. Eng. Pat., 14,043. June 9, 1897.

The fresh logwood extract is aged or oxidised by agitating for some hours with finely-divided manganese dioxide in the presence of acetic acid. The manganese dioxide may be added direct to the chips during extraction. When a full red colour is attained the liquor is run off and settled. An alkaline "boil" may be used to extract the last traces of colour. After neutralising and settling, the liquors are concentrated to 52° Tw. It is also possible to add the manganese to the dye bath, using 4 % for every 15 to 20 % by weight of logwood extract, testing 45° to 52° Tw.

THE SICILIAN SULPHUR TRADE.

CATANIA.

THE quantity of sulphur exported from Catania was 90,590 tons, as against 95,678 tons in 1896.

This diminution will probably be more than compensated this year, the cause being that the users of the ground article have delayed their purchases, in the hope of seeing lower prices.

The operations of the Anglo-Sicilian Sulphur Company, Ltd., have proceeded regularly and without a hitch, and have been a boon to the mine proprietors, who are now able to earn a good profit on their industry, with the result that several millions of lire remain in the island to their and the miners' benefit, whilst before the advent of said company the industry was at the mercy of speculators.

In June, 1897, the company entered into contracts for two years with 12 (out of 15) of the refiners at Catania to work up, at fixed prices, 110,000 tons of crude sulphur into the various refined qualities which are used in commerce, with faculty to sell two-thirds of the quantity at 3 per cent. selling commission.

These contracts have worked well, with satisfactory results to both parties.

The average price of crude sulphur for 1897, taking best thirds as a basis, has been £3. 13s. 7d. per ton f.o.b. Catania, as against £3. 7s. for 1896.

LICATA.

The output gave a total of 165,704 tons, of which 94,847 tons were duly shipped, and 70,857 tons remained warehoused up to December 31, as is clearly shown by the following table:—

Quality		Quantity. Tons.
2nd best best	Licata	169
2nd best	,, ...	8,050
2nd good	,, ...	24,757
3rd best best	,, ...	13,346
3rd best	,, ...	13,024
3rd good	,, ...	11,511
	Total	70,857

The quantity of sulphur exported from Licata to foreign countries during 1897 was 85,741 tons; to Italy, 9,106 tons; total, 94,847 tons, amounting to £331,964., showing an increase of 20,808 tons and £124,875. above the preceding year.

The value of the sulphur carried by British vessels amounted last year to £79,365.

GIRGENTI.

The shipments from Girgenti during the last three years have been as follows:—

To—	Quantity. 1895. Tons.	1896. Tons.	1897. Tons.
United Kingdom	11,908	8,548	12,155
United States of America ..	74,322	84,960	76,166
France	44,831	48,330	46,175
Italian ports	5,905	6,106	5,852
Russia	8,770	2,952	6,818
Germany	5,025	4,000	8,831
Austria	2,937	2,260	2,714
Other countries..	11,848	14,899	14,054
Total	165,546	172,055	172,765

SUMMARY.

The summary of the exports from all ports shows that 410,000 tons were shipped, as compared with 378,674 tons in 1896. The prices, too, have improved. The following are the averages for the last three years:—

Year.	Prices. Best 2nds. £ s. d.	Best 3rds. £ s. d.
1895	2 5 0	2 2 11
1896	2 18 8	2 15 11
1897	3 13 11	3 11 3

The stocks on January 31st, 1898, at Girgenti, Licata, Palermo, Catania, and Termini amounted to practically 219,000 tons.

Reports of Companies.

SALAR DEL CARMEN NITRATE CO., LTD.

THE directors report "as the oficina only commenced working within a few weeks of the end of the past year, no regular profit and loss account was practicable, and therefore, merely a balance-sheet has been compiled. The cost of erecting the oficina—provided out of the debenture issue made in May, 1897—was £60,729. 12s. 1d. The plant, both for the manufacture of nitrate and iodine, is of the most modern type, and has been put up with the greatest care and efficiency. Owing to the termination of the combination in October last, and the consequent demoralisation of the nitrate market, production has not been pushed, in order to save the grounds during the present depression. Judging from the work already done, the directors have confidence in the future of the property, and they feel that when the selling price of nitrate improves, the satisfactory results anticipated at the formation of the syndicate will be realised, the oficina being one of the cheapest producers in the province of Tarapacá."

GREENWOOD AND BATLEY, LTD.

The report for the year ended March 31st states that, after providing for debenture interest and management expenses, writing off £2,500. for depreciation, and providing £500. for doubtful accounts and allowances, the accounts show a net profit of £8,658., making with the amount brought forward a balance of £10,066. The directors recommend that a dividend of seven per cent. should be paid on the preference shares, leaving £3,039 to be carried forward. An agreement has been entered into under which the company has sold its Russian business to the Russian Engineering Company, Ltd., for £19,000., payable half in ordinary and half in preference shares of that company. It is stipulated that this company shall act as the sole agents of the Russian company for the purchase in England of all materials, machinery, or other articles, and are also to manufacture all such special machinery or parts of machinery as that company may require from England for the next 25 years. The directors considered it necessary, having regard to the future interests of the company, to join the federated engineering employers in resisting the 48 hours demand, and this action brought about a strike which practically stopped the producing power of the works for seven months out of the year under review, the result of the strike being the withdrawal of the 48 hours' demand, and the return to work of the men under conditions which the directors trust will prove satisfactory to all parties concerned. The works are fully employed at the present time.

SCHIBAIEFF PETROLEUM COMPANY, LIMITED.

At the meeting of this company, on Monday, Lord Wenlock, who presided, said the statutes of the Russian Company under which they worked were especially authorised by the Tsar, and the directors had every reason to believe that under those statutes the business could be carried on, although the shares were held, not as formerly, under a kind of family arrangement, but by English shareholders. Naturally all interested in petroleum companies had of late been somewhat agitated by the remarks made by the London agent of the Russian Minister of Finance, his Excellency Count Tatischieff; but the shareholders need be under no apprehension as to the position as regarded the Government of Russia, for the company had from the first received every encouragement from those who were responsible for these matters in Russia, and was now on the eve of obtaining that special recognition which was necessary under the special law. In the prospectus it was anticipated that the output for the year ending March 31 last, during which year the profits accrued for the benefit of this Company would realise, roughly, £90,000. As yet they did not know the actual result, but the production of crude oil, which Mr. Boverton Redwood told them amounted to 11,500,000 poods in the nine months of which he had cognizance, in 1897-8 had amounted in the twelve months to slightly over 15,000,000 poods, thus fully bearing out the figures in the prospectus. This production, moreover, was arrived at without any fountain spouting. The Chairman added that the returns from the refinery showed that it had been working fully up to what they expected.

IRON ORE IN FURNESS.—The Mouzzell Company, who have been carrying out boring operations in Furness, have struck a vein of iron ore near Dalton, which has already been proved to be 70ft. thick, and the bottom has not yet been reached. This makes the second "find" of ore in the neighbourhood of Dalton within the past two months. Boring operations are being undertaken on an extensive scale by some of the large mine owners, and it is expected that other rich deposits of metal will be found.

DISTINGUISHING BONE FROM MINERAL SUPERPHOSPHATE.

A METHOD has recently been proposed by M. F. Poquillon for ascertaining whether superphosphate has been made entirely with de-gelatinized bones, or from a mixture of mineral and bone phosphate. The process is based upon the fact that even extracted bones, contain a certain proportion of fatty matter, the presence of which, in the superphosphate in certain proportions, affords a means of judging whether mineral phosphates have been employed in the manufacture or not. From experiments made with bones, extracted either with benzene or steam, M. Poquillon has found a constant proportion of fatty matter by subsequent extraction with carbon bisulphide. As the result of his investigations he has established the following constants:—10 to 12 per cent. of fatty matter, for every 100 parts of phosphoric acid, for bones extracted with steam, and 6·5 per cent. for supherphosphates manufactured from benzene-extracted bones. If the number is above 12 per cent., it may be taken for granted that the superphosphate has been made from green bones. A number of experiments have been made with horn, dried blood, etc., with a view to ascertaining whether any nitrogenous material, containing fatty matter, could be used as an adulterant so as to render this method of testing useless. If the percentage of fatty matter found falls below the constants given above, it may be assumed that a proportion of mineral phosphate has been employed in the manufacture of the superphosphate.

Obviously the method is more or less approximate, but it may be found useful as a guide to the probable origin of a superphosphate.

THE REPORT OF THE PETROLEUM COMMITTEE.

EXTERNAL CRITICISM.

COMMENTING upon this report the *Manchester Guardian* says:—A disappointing report by the Select Committee on Petroleum is imminent. On Friday, last week, a draft report prepared by Mr. Ure was rejected by a majority of two, and the Committee resolved to base its recommendations to Parliament on the proposals drawn up by Mr. Collings. The essential difference between the two sets of proposals is that Mr. Collings wishes to prohibit the use of dangerous lamps, whilst Mr. Ure would prevent the sale of dangerous oil. The latter desires to raise the lowest legitimate flash-point of lighting oil from 73 deg. to 100 deg. Fahr.; the former declares that any attempt to do so must end in practical failure, that if it succeeded it would inflict a great hardship on the poor, and that in either case it would be an experiment not justified by the number of preventable accidents that happen at present. Both parties in the Committee appear to be persuaded that further legislation is needed to govern the storage, transport, and sale of petroleum and other inflammable liquids, and, as the "Times" points out, the adoption of Mr. Colling's draft as a basis of discussion does not mean that the final report will necessarily be modelled very closely upon its lines. Even the question of the flash-point is still undecided, and it is open to the Committee to amend the draft so as to give effect to Mr. Ure's views. But there is grave reason to fear that in this vital particular Mr. Collings may get his way, and as the matter is to be settled one way or the other on Wednesday there is just time for an

EMPHATIC PUBLIC PROTEST.

We have no idea how many people would have to be burned to death before the necessity for State intervention would be brought home to the mind of Mr. Collings, but most of us feel that the number is already quite large enough. Nor do we quite understand why it would be impossible to prevent the sale of lamp-oil which gives off inflammable vapour at a temperature of less than 100 deg., if it would be possible to regulate by law the proportion of weight to capacity in glass lamp-fountains, the length of wicks, and the relative weight of the lamp's base and superstructure, and to prescribe legal standard patterns and sizes for burners, wick-tubes, wick-winders, and other fittings. Machinery, however imperfect, already exists for the purpose of enforcing the law in respect of the flash-point, but a whole army of skilled inspectors would have to be created to make sure that no lamps of an unauthorised pattern should be imported from abroad or made in the United Kingdom for use at home. Mr. Collings, with a curious neglect of logic, protests that poor people would suffer a great hardship if they were denied opportunities of buying cheap oil, which is liable to explode and destroy them, and proposes at the same time to cut off their supply of cheap and nasty lamps.

The *Star*, in its issue of Monday, also analyses Mr. Collings's arguments and subjects them individually to brief but pertinent and damaging criticism which possesses additional virtue owing to Mr. Collings's excuses and "possibilites" being confronted with *facts* culled from accepted authorities.

Our Book Shelf.

LUBRICANT OILS AND GREASES. By I. I. Redwood. 54 pp. including index. London: E. & F. N. Spon. 1898.

This is a small but thoroughly practical work on the qualities of lubricants. Though primarily intended to give engineers an insight into the theoretical and practical properties of the oils and greases used for lubricating, it contains many wrinkles worthy the attention of all users. Much of the information is "up against" the compounder who profits by cheapening. The first part deals with the theoretical side, and explains the properties of mineral, vegetable, and fatty oils, mineral lubricants, and compounded greases. Chapter five, which relates to testing, is sufficiently simple and explicit to be well within the grasp of comparative tyros. The manufacturing aspect is considered in the second part. This must not be taken to convey that a number of recipes are given; on the contrary, they are only few and far between. From cover to cover the book deals more with principles than details. At the same time differentiation of the classes of lubricants manufactured is most useful, as it enables buyers to gauge the accuracy of the descriptions given by vendors to their various preparations, and to discern the genuine article from the substitute. There is an appendix on the action of oils on metals. Greases are the predominating feature of the book.

THE ARRANGEMENT OF ATOMS IN SPACE. By J. H. van't Hoff. Translated by A. Eilsart. 2nd edition. 211 pp. with index. London: Longmans, Green & Co. 1898. 6s. 6d.

Proceeding from a brief but interesting introduction, this work will be found to resolve itself practically into two parts dealing respectively with the stereo-chemistry of the carbon and the nitrogen compounds. The former are dealt with in seven chapters. In numerous cases the deductions are illustrated by experimental confirmations. The appendix relates to the stereo-chemical isomerism of inorganic compounds. Naturally the work entirely favours the Kekulé conception of the quadrivalence of carbon, and the tendency of the four valences to the corners of a tetrahedron, with the carbon atom as a centre. The works sets forth much of the empirical investigation that the propagation of this hypothesis has engendered, and aims at fostering research in this direction.

RADIOGRAPHY. By S. R. BOTTONE. 476 pp. including index, 47 illustrations. London: Whittaker & Co. 1898. 3s.

The author is well known as a popular scientific writer, and although the subject does not lend itself easily to such treatment the book is more than satisfactory. It is both lucid and accurate, while every care has been taken to avoid misconception on the part of amateurs or beginners. At the same time there is a wholesome absence of the sensational. The descriptions are such that for the most part the necessary apparatus can be made instead of bought. It is very satisfactory to know that the facts stated have largely been tested experimentally by the author, and when this has not been the case the authority is always given. The first two chapters relate to the action of light on silver salts and the effects of a partial vacuum on electrical discharges. The induction coil is fully described in chapter three, after which accounts of Crookes's tubes, Wimshurst and Holtz machines follow. There are ten chapters in all, from among which some of the best and most instructive are those on the choice of a source of current; screens and their preparation; and general manipulation. The illustrations are good. The book will be found a most useful guide to all who wish to practise radiography.

NOTES ON OBSERVATIONS. By S. Lupton. 124 pp. London: Macmillan & Co. 1898. 3s. 6d.

To the young research student this book will prove a valuable and trusty companion. It fills a gap, the existence of which has let in most of our competitors in the field of industrial chemistry. We have often complained of the examinational system of education on the ground that it only produces recruits, not soldiers, for the army of science. This book will act more or less as the bridge between the epoch when the student has become a qualified workman, and when he enters the field of direct investigation. It deals with the principles of reasoning, cause and effect, observation and experiment, and kindred subjects, a knowledge of which is necessary if the student is to grasp rightly the significance of quantitative results. In short, to use the author's own definition of his book, it aims at outlining the methods used for determining the meaning and value of quantitative observations and experiments in physics and chemistry, and for reducing the result obtained The aim is ably fulfilled.

JAVA INDIGO.

MESSRS. BUNGE, of Rotterdam, report that under the influence of abundant offers and little inquiry, the prices of Java Indigo have further declined since February, and almost every sale of some importance showed lower prices. The situation of Java Indigo is now such that, under normal circumstances, it would be a tempting one, prices being lower than those for any other provenience, a fact which in the long run cannot fail to draw the attention of all consumers. Owing to a report from Calcutta, stating that the prospects for the new crop are less favourable, there has been a better tendency for all Indigoes, but even without such news (which must be accepted only with great reserve), there were good reasons for an improvement of prices for Java's. The fear caused by the advent of synthetical Indigo is, in our opinion, much exaggerated, and the very limited purchases, which were a consequence thereof, already contain the germ for a revival. Actual quotations are as follows:—

Middling.....3/6 - 3/9 } per lb., c.i.f. less 1% discount.
Good to fine ..3/11 - 4/5 }

There are also more than 400 Chests Bengals and Oudes offering here, to be had at figures competing with London rates. The reports from London were better in the past few weeks; there was a brisker inquiry there, and the improved statistics inspire confidence.

NOTES ON AMERICAN CHEMICAL TRADE.

THE Mathieson Alkali Works of Niagara Falls, N. Y., have begun the enlargement of their plant. The company now takes 2,000 electrical horse-power from the Niagara Falls Power Company, but when the extensions to the plant are completed it will use three times as much.

The transformer room of the Mathieson Niagara plant is 125 feet long by 40 feet wide, and is one of the finest at the falls. The transformers and switchboards are arranged in long lines on each side of the room. The rotary transformers number 11, and are installed on the south side of the room, while on the north side stand the switchboards, and in the rear of them the static transformers. Each rotary transformer converts from 200 horse-power from about 120 volts alternating current to about 200 volts direct current. The cell room of the plant is on the opposite of the wall, close to which the rotary transformers are installed, and they are connected up in sets, placed in rows, extending north and south, and correspond to the rotaries. The appearance of the installation is quite different than any other seen in the electro-chemical plants at the falls. The transformer room is lighted from the top by skylights, the walls are white and the floor is of wood, all very neat in appearance. The long row of rotaries is seen to the right, while to the left are the switchboards, and back of them the static transformers. Through these machines, about 2,000 horse-power is converted from 2,200 volts alternating at 25 cycles, at which it is furnished by the Niagara Falls Power Company, to about 200 volts direct current.

It will be seen that ample means are provided to keep the voltage proportional to the number of cells in use. The controllers are mounted on the switchboards; they give a range of 100 volts on the direct current side of the rotaries. The duty of these controllers will be understood to be to vary the pressure supplied to the rotaries by cutting in or out sections of the primaries of the static transformers. It may be mentioned that each set of state transformers consists of two transformers of 100-horse-power each, and that they reduce or step down the pressure from 2,200 to from 170 to 300 volts.

In the Mathieson plant the use of small electric motors for various uses where power is needed is well portrayed, as there are no less than 22 two-phase induction motors in use about the factory. The functions they perform are to operate pumps, cranes, drive blowers, etc., and two are used on hand trucks in starting up the rotaries, if desired. However, the early operation of the plant led to the adoption of a novel method. On each of the rotaries there is a 10-inch pulley and an idler, the armature shaft being extended beyond the bearing of the alternating current end for this purpose.

* * *

The Carborundum Company of Niagara Falls, N. Y., is about to enlarge its plant by a building where carborundum will be spread on paper, cloth, and perhaps leather, thus enabling the company to compete with emery and flint paper and cloth manufacturers, of whom there are seven or eight in the United States.

* * *

The Thomsen Chemical Company, of Baltimore, Md., was incorporated recently by Philip F. Hoffman, Joel C. Dumbracco, Edmund M. Hoffman, E. Scott Merryman and John G. Westcott. The company will conduct a manufacturing and chemical business. The capita stock is £30,000. divided into 1,500 shares of £20. each.

Official Memoranda.

TARIFF OF BRITISH INDIA.

THE following is an abstract of this tariff. The previous valuations are shown side by side with the present valuation for the purposes of comparison :—

Name of Article		Previous valuation. Rs.	a.	Revised valuation. Rs.	a.	p.
Acid, sulphuric	per lb.	0	2	0	1	6
Alum	per cwt.	5	0	4	10	0
Sal ammoniac	,,	37	0	26	0	0
Sulphate of copper	,,	15	8	17	8	0
Brimstone (amalsara)	,,	50	0	35	0	0
Camphor, refined cake	per lb.	1	4	1	2	0
Alizarine dye, dry, 40 per cent	,,	1	7	1	5	0
,, ,, 50 ,,	,,	1	10	1	8	0
,, ,, 60 ,,	,,	1	15	1	12	0
,, ,, 70 ,,	,,	2	2	2	0	0
,, ,, 80 ,,	,,	2	8	2	4	0
,, ,, 100 ,,	,,	2	12	2	10	0
,, liquid 10 ,,	,,	0	5	0	4	6
,, ,, 16 ,,	,,	0	8	0	6	6
,, ,, 20 ,,	,,	0	10	0	8	6
Aniline dye, liquid, indigo blue	,,	0	9	0	8	0
Gallnuts (myrabolams)	per cwt.	4	0	3	0	0
Madder or manjit	,,	7	0	11	0	0
Orchella Weed	,,	5	0	4	0	0
Cutch and gambier	,,	20	0	15	0	0
Gum, Arabic	,,	18	0	22	0	0
Rosin	,,	6	0	5	0	0
Ochre, other than European, all colours	,,	1	8	1	4	0
Pitch, coal	,,	2	8	3	8	0
Tar, coal	,,	4	0	3	8	0

Machinery (and component parts thereof) for the manufacture of paraffin candles is exempt from duty on entry into British India.

GOLD OUTPUT IN THE RAND.

STILL ADVANCING.

THE output from the Witwatersrand district during May, as cabled by the Chamber of Mines of the South African Republic, amounts to 344,160 ozs., while from outside districts 20,856 ozs. are reported, a total of 365,016 ozs. This shows an increase of 11,773 ozs, as compared with the previous total. No comparison with the corresponding month of 1897 can be made.

	1895. oz.	1896. oz.	1897. oz.	1898. oz.
January	177,463	148,178	209,832	336,577
February ...	169,295	167,018	211,000	321,238
March	184,945	173,952	232,067	347,643
April	186,323	176,707	235,698	353,243
May	194,580	195,008	248,305	365,016
June	200,941	193,640	251,529	—
July	199,453	203,873	242,479	—
August	203,573	213,418	259,603	—
September ..	194,764	202,561	262,150	—
October	192,652	199,889	274,175	—
November ..	195,218	201,113	297,124	—
December ..	178,428	206,517	310,712	—
Total ..	2,277,635	2,281,874	3,034,674	1,723,717

NEW GASES IN THE ATMOSPHERE.—Professor Ramsay, F.R.S., in continuation of his recent research on a new gas in atmospheric air, has gone still further, and succeeded in demonstrating the complex nature of argon, a point which since its original discovery has exercised the minds of many chemists. Argon, it now seems, has companion gases, their names (using the professor's nomenclature) being "neon" (new) and "metargon," so that two very interesting and novel facts in natural knowledge have accrued since krypton came into being. The spectrum of "neon" is characterised by a number of bright red lines and a brilliant yellow one. This, and its low density, together with its behaviour in a vacuum tube, at once pointed to its singularity as a gas. Quite unlike helium, argon, and krypton, it is rapidly absorbed by the red-hot aluminium electrodes of a vacuum tube. As regards "metargon," it must be considered as a distinct elementary substance, while it seems to hold a position towards argon much in the same way as nickel does to cobalt. It is solid at the temperature of boiling air.

ENGLISH *v.* GERMAN BUSINESS METHODS.

THERE have been many explanations of the decline in English trade, wherever we come into competition with Germany, and our Consuls have harped on the foreign educational facilities for a long time. The following points raised by Her Majesty's Consul at Frankfort throw another light on the question, which deepens the shadows of both our Commercial and Consular systems. He states that complaints have been made quite lately by German business men, who do a large and regular trade with England, of the lack of willingness on the part of English manufacturers to meet their wishes. As a rule, the fact is that the manufacturers are not willing to meet the desires for even small changes or the like, which may be necessary to increase sales, even at the instance of old customers. The German purchaser simply cannot understand such ways, and complains bitterly of this want of obligingness, which, he says, frequently makes business connection with English firms unpleasant. The German business man, in small or great matters, meets the desires of his business friends; he makes the shape or colour, or the packing of goods altogether in accordance with the wishes of his customers, even when he is convinced that other shapes, colours or packing would be better. But he never tries to impose his own judgment on buyers; he is satisfied if he can meet the wishes of his customers and can retain their patronage. With such business principles he is contented, prospers, and is becoming more and more a formidable competitor for other countries. The English manufacturer differs often in this respect.

An important leather manufacturer in a neighbouring industrial city has for years tried to obtain from his English purveyor a certain shade of colour, for which he would have had excellent use. All requests and letters met with a negative answer, and even when applying personally in England the manufacturer replied, "No, I cannot." To-day a great French firm is trying to obtain the contract for this very supply. The article in question is of a kind which is nowhere made as well as in England, yet if customers are refused their special wishes, they finally put up with inferior quality, and England thereby reduces her output. It is asserted in this special instance, that the manufacture of the desired shade of colour would have been an easy matter. The German manufacturer even was ready to supply the colour himself, and was willing to take the quantity manufactured, no matter how it might have turned out! This German merchant holds that such an example is typical of English business men. Whatever he puts on the market is good and solid, but one must be content with it, and must not ask for other or similar kind of goods from him, but rather make them oneself. Another example:—A German manufacturer regularly uses metal fittings, which for certain reasons are bought in England. He desired to have the edges made a little rounder so that when fitted on a better shape would be gained, and he applied to his manufacturer. The result was a refusal, because the new shape would necessitate a new punch. Such a one can be made in Germany for about 5 marks, and no German manufacturer would think of first entering into correspondence about such a trifle. He at once meets such a request on the part of a customer. Similar complaints are frequently made as to the packing. Fine leathers become less valuable if they are folded, because the folded parts cannot be used, yet years of petitioning and trouble were necessary before he could induce the British manufacturer to forward this leather rolled up. Many such examples, it is to be regretted, could be given, but the fact must be constantly emphasised that nowadays it is of the greatest importance in international competition to meet the desires of customers to the greatest possible extent.

Of late also in Germany the demands of parties interested in the Consular service are mainly directed towards supplying the Consulates with so-called technical advisers, since the Empire has commenced nominating, in some countries which are more important in this respect, so-called agricultural *attachés*. The renowned "Union for protecting the interests of the Chemical Industry of Germany" has forwarded an application to the Imperial Chancellor, in which the wish is expressed that he would nominate technically and economically trained *attachés* for all the more important Consulates of the Empire in foreign countries—especially at the Consulates-General.

THE NEW SMELTING WORKS ON THE CANAL.—The Secretary of the Smelting Corporation, Limited, states that it is the intention of the directors to concentrate all the works of the company at Ellesmere Port, on the banks of the Manchester Ship Canal. The outlay will exceed £100,000, and it is expected that not fewer than 700 hands will be employed at the works. When the prospectus of the company was issued it was intended to add to the works at Swansea, where a smelting plant has been at work about two years, to enable it to deal with 20,000 tons of ore per annum, but it is now found that the greater advantages to be secured on the Manchester Ship Canal will more than compensate the Company for concentrating the whole of the works at Ellesmere. A considerable portion of the work has already been executed, and it is expected that the whole will soon be concluded.

EXHIBITS AT THE ROYAL SHOW.

THE implement section, which includes such exhibits as are of a more general character, was not quite so interesting to the chemical industry as usual this year. The entries were about the same as regards number; but, compared with the Manchester show last year, were not so diversified.

The most noticeable feature was the number of oil and gas engines. Small motors of this class are apparently growing in favour, if the way they multiply is to be taken as any guide. Taking the stands in their numerical order, we found the "One and All" manures of the Agricultural and Horticultural Association once more well to the front.

The Phœnix Oil Mill Co. (of Liverpool), made their usual attractive display of feeding cakes, this exhibit also including nitrogenous and phosphatic manures—notably nitrate of soda, supers and basic slag. Guanos and compounded fertilizers were also shown.

The Sanitas Co, Ltd. (London, E.), had a display of their disinfecting fluids, powders and soaps, sheep dips, weed killers, etc. The disinfectants included their "Okol" and "Creocide" preparations.

Messrs. Lever Bros., Ltd. (of Port Sunlight, Cheshire), had a stand devoted to their cakes and meals (decorticated and undecorticated), also their "Sunlight," and "Lifebuoy" disinfecting soap.

An interesting collection of grindstones and "Porceliron" pans, bowls, pails, &c., were shown by the Cannon Hollow-ware Co., (Deepfields, Bilston), who also exhibited some gas cookers and grillers.

Messrs. Follows and Bate, (Gorton, Manchester), had a good display of their well-known grindstones, paint mills, meat cutters, and knife cleaners; having added to their exhibit an improved form of household refrigerator.

W. H. Willcox and Co., Ltd. (London), were exhibiting a general collection of engineers' tools and general stores; also lubricating oils. Special mention might be given to their specialities, namely, semi-rotary pumps, and Penberthy injectors, which are gaining ground every day amongst agricultural engineers. They were showing their patent wire bound hose, in all sizes from ⅜in. up to 12in. Special mention ought to be given to the new Bozon portable forge. Another speciality which they were showing was Wells' hand painting machine; also boiler cleaners and compounds for preventing incrustation in boilers.

Messrs. J. and F. Howard (Bedford) were in evidence with their hydraulic presses, and also oil engines, including both the portable and stationary types. The portable engine was of 8 b.h.p.

Manure spreaders were again a feature with Messrs. Sergeant and Co., Ltd., (Northampton). A new spreader for sticky fertilizers and broadcasting phosphates, having been entered as a new implement.

Messrs. T. Coulthard and Co., (Preston) exhibited some neat vertical compound engines specially adapted for driving dynomos, centrifugal pumps, and light vehicles.

The Blackman Ventilating Co., made a good display with their fans. A feature this year was their grain dryer, which is fitted with a coke furnace for heating the air. It appears capable of drying many things besides grain. Another useful exhibit was a Blackman fan fitted with a direct coupled steam engine, for driving in places where shafting and belting is inconvenient.

A series of oil engines ranging from 1½ up to 14 b.h.p. were shown by Blackstone and Co., Ltd. (Stamford), some dynamos and a combined pump and motor, made by the Walsall Electrical Co., being included in this exhibit.

Messrs. R. Dell and Son (London), who have been referred to in these columns in connection with a patent white lead packer, were showing their "Plansifter" machines for dressing granular materials.

The Campbell Gas Engine Co. (Halifax), had eight of their oil engines on view, ranging in power from 1 up to 16 b.h.p., some of which were shown at work driving ram pumps capable of delivering 1,200 gallons per hour.

As usual the "Trusty" oil engines made by the Trusty Engine Works (Cheltenham), made a good show.

Messrs. J Stott & Co. (Oldham), had an attractive display of ventilating fans, and air propellers, some of which were driven electrically and of neat appearance. They also showed a new system of ventilation in which special provision is made for humidifying and disinfecting the air.

Messrs. Sinclair and Co. (London) showed a collection of chemical fire extinguishers and "Comet" industrial lamps, which burn Russian oil without any carbon deposit. They are useful for starting kilns, etc., apart from being used for illuminating purposes. They are also applied to small melting furnaces.

Messrs. Crossley Bros. (Manchester), in addition to their gas engines were showing six oil engines of the horizontal type, both fixed and portable, having a range of power from 3 maximum effective horse-power up to 16.

The Cranstone Engineering Works, Ltd. (Hemel Hempstead), made a display of hoists and lifts, but were also exhibiting paint and putty mills, and edge runners for hand or power.

E. Mansfield and Sons (Whitby, Cheshire, late of Manchester), had their oil-gas plant at work, and were driving a gas engine made by the National Gas Engine Co., of Ashton-under-Lyne, with the gas so produced.

The "Blake-Marsden" stone crusher was shown at work by Mr. H. R. Marsden, of Leeds, also granulators, elevators and automatic grading screens. The complete plant loads the broken stone into carts at the rate of 8 tons of macadam per hour.

A new implement in the form of a stone-breaker and pulveriser was operating at the stand of Parker's Patent Pulveriser and Brick Machine Co. (71, Scholefield-street, Birmingham), this being their first exhibit at the Royal. The machine is capable of dealing with 40 to 50 tons per day.

Mr. W. H. Baxter (of Leeds) was also to the fore with a portable stone breaker and screening machine, the breaker it is stated being so adjusted as to ensure no stones escaping which are larger than the holes in the screens. Thus there are no tailings to be put back through the crusher.

Disintergators of all sizes were being shown by Mr. J. H. Carter (Dunstable). The Hardy Patent Brick Co. (Sheffield) were showing their "Devil" disintegrators, "Multiple" grinders and vibromoters, and also a hand bone mill.

The Central Cyclone Co., Ltd. (London), made a good display with eight sizes of their pulverizers and disintegrators. The class II. pulveriser is specially suited to the fine grinding of paint materials. We notice one of these was ticketed as sold for the United Alkali Co.'s works at Widnes.

Messrs. Christy and Norris (Chelmsford), were showing various sizes of their disintegrators with different feeding arrangements, for materials such as seeds, meals, and soap powders. A portable stand with an automatic sacking arrangement was also a feature this year.

A "Lampless" oil engine was the chief attraction at the stand of Messrs. Fielding and Platt, Ltd. (Gloucester). This particular type was of the 3½ b h.p. size. The other exhibits consisted of the ordinary "Fielding" oil engines.

A 10 b.h.p. "Rocket" oil engine, in which many improvements have been combined, was the centre-piece of the exhibit made by Messrs. R. Stephenson and Co. (Newcastle-on-Tyne). A treble ram pump, and grist mills were also on view.

Messrs. J. B. Petter and Sons (Yeovil), added a few more specimens to the all prevailing oil engine, these engines being shown in various adaptations for driving pumps, chaff-cutter, grinding mills, and thrashing machines.

Four "Hornsby-Ackroyd" oil engines were shown by Messrs. R. Hornsby and Sons, Ltd. (Grantham), among a number of agricultural implements.

The stand of Messrs. R. Stephenson and Bro. (Manchester), was devoted to all classes of belting, the Ibis wood split pulleys, and mill furnishing sundries.

Another Manchester firm, Messrs. Gresham and Craven, Ltd., made an attractive show with their injectors, ejectors, and water heaters.

Messrs. Reddaway and Co., Ltd., were exhibiting a large assortment of their beltings, hoses, and rubber valves and washers. Their "Sphincter" hose was much in evidence.

Messrs. Newton, Chambers and Co. (Sheffield), were showing their "Noxona" sheep dip and "Izal" disinfecting preparations.

The Permanent Nitrate Committee once more exhibited their familiar collection of caliche, photographs, and literature—some new pamphlets being included in the latter.

The Sulphate of Ammonia Committee was not represented at the Show.

The fertilizer exhibits were, more or less, in a group, Messrs. Procter and Rylands (Birminghan and Chester), showing a number of patent compounded manures, in addition to various grades of phosphatic and nitrogenous furtilizers, (sulphate of ammonia excepted). Hop and potato fertilizers are among their specialities.

Messrs. J. Ashworth and Sons, Ltd. (Frodsham Bridge), exhibited various artificial manures, also, feeding cakes, sheep dips, and a collection of seeds.

The paint industry found two representatives this year in the exhibits of Messrs. Pilchers, Ltd., (London), whose attractive stand is a regular feature of the Royal, and of Messrs. E. Hughes and Co., (Carnarvon), who included lubricating oils, boiled oils, dryers, and cart greases in their display of paints and painters' requisites.

The Anglo-Continental Guano Works, (London), had a collection of general fertilizers and of their guanos in particular, the virtues of which are set forth in a handy little booklet. The latter also deals with the composition of their guaranteed compounded fertilizers.

Messrs. E. Webb and Sons, (Stourbridge and Chester), have an excellent display of seeds, roots, and tubers, with suitable manures for the same. They are evidently determined to be quite up-to-date, having named one of their potatoes the "New Motor."

Trade Notes.

Disposal of Manchester Sewage: Schemes Invited.—The following notice appeared in a recent issue of the *Manchester Guardian*. "Notice is hereby given, that we have undertaken the duties entrusted to us by the resolution of the Manchester Corporation whereby the scheme approved by the City Council on the 20th ultimo was referred to us for our conjoint opinion and advice, and whereby we were requested and authorised to advise as to any alternative scheme which may be put before us or which we may recommend. We hereby give further notice that we are prepared to receive written communications setting forth any scheme which may be suggested for our consideration, the same to be addressed to us at the Town Hall, Manchester, on or before Friday, the 1st July, 1898. We wish it to be understood that no premium is offered, nor will any expenses be paid in respect of any scheme which may be submitted to us.—Dated this 16th June, 1898, Baldwin Latham, Percy F. Frankland, W. H. Perkin."

Expected Collapse of the Paper Trade Combination.—The withdrawal of the Sun Paper Mill Company from the proposed paper manufacturers' "combine," and the decision of the shareholders in the Darwen Paper Mill Company not to join will in all probability lead to the collapse of this movement, which was started with the object of more effectively dealing with foreign competition, particularly American, and lessening the present heavy expenses in carriage. The combination was to include eight leading English firms, manufacturing common news, with a capital of £2,500,000. to £3,000,000.

Non-poisonous Matches.—News comes from Paris that M. Georges Cochery, Minister of Finance in the late Meline Cabinet, has for some time devoted considerable attention to diminishing the danger of phosphoros poisoning among the workpeople employed by the State in manufacturing matches. The experiments made by the Government chemists have resulted in the invention of a substance containing neither yellow phosphorus nor any other noxious ingredient. Matches made with the new paste have been tried in different parts of France with complete success, and will before long entirely replace all others. Moreover a machine for the continuous manufacture of matches which has also been just invented reduces manual labour to a minimum and greatly reduces the cost of production. [We should like to try them ourselves first, before acquiescing in the "complete success." The present French matches are too execrable to take much beating.—Ed. C.T.J.]

The Tallow Market.—"The tallow market has relapsed into a condition very rarely experienced. Of the whole 1,700 casks offered at the London public sales this week not a single cask was sold under the hammer. Holders would not make concessions to buyers, and consequently consumers have fallen back upon their stocks to meet their pressing requirements. The present state of the market is due to two causes—first, the large and unexpected offers of North American tallow; and, secondly, the increased supplies of home melt. The full extent of these supplies being unknown has brought about the present deadlock, for quotations of colonial produce are quite nominal. Consumers are naturally waiting for some indication as to what holders of Australasian tallow will do in the face of these other supplies, but meanwhile town tallow is quoted at a decline of 1s. 6d. per cwt. The visible supply at the beginning of the month was 26,029 casks, while the total arrivals for the first fourteen days are returned at 6,107 casks.

Commercial Education in Italy.—Boy Merchants.—At Genoa there is a commercial school of considerable importance, says one of the Consular reports recently issued. It is governed by a committee representing (1) The Ministry of Agriculture, Industry, and Commerce; (2) the Province; (3) the Municipality; and (4) the Chamber of Commerce of Genoa, each of which contributes 20,000 lire a year, or 80,000 lire (£3,200) together, to its support. The complete course of instruction covers three years, and promotion from each annual class to a higher is by examination. On the completion of the whole course a final examination has to be passed to entitle candidates to a diploma or commercial degree, qualifying them to hold the highest posts of employment in banking and commercial establishments, or in expeditions and voyages on account of the Government, public companies or others. One interesting feature in its instruction may be mentioned. This is the "banco modello," or model office. Students in this department represent different firms in various parts of the world, and go through all the most minute operations of trading with each other, including transit of goods by sea and by land. Connected with these commercial houses are a deposit and discount bank, a bank of issue, and a clearing house, all being furnished with a complete supply of ledgers, forms, &c., such as are actually used in each department of trade. The results have been excellent, and successful graduates find immediate employment at high salaries.

Dynamite in the Transvaal.—An arrangement is said to have been practically arrived at between the Government and the South African Explosives Company, whereby a further reduction of 10s. per case upon dynamite No 1 and upon blasting gelatine will be carried into effect upon the following terms and conditions:—(*a*) That the currency of the existing concession be extended for a further period of ten years; (*b*) that the company undertakes, as soon as may be practicable, to manufacture within the State all the explosives required by the mining industry; and (*c*) that the company shall have the right, in the meantime, to import such quantities of raw material as may be necessary. Discussion is still proceeding as to whether the reduction is to be at the rate of 7s. 6d. or 10s. per case.

Market Reports.

TAR AND AMMONIA PRODUCTS.

Benzols continue in a state of depression, with 90's at 10d. and 50/90's at 11d. Carbolic acids continue firm in price, but so far without any change. There is nothing fresh to be said about naphthas, both solvent and crude remaining as last quoted. Anthracene steady at 4½d. to 4¾d. for 30%A, and 3¾d. for B.

Sulphate of ammonia shows signs of improvement in price. Dealers have been anxious to buy under current quotations, but apparently without much success. On Wednesday Beckton came out as sellers for October-December, and sold a good quantity at £8. 18s. 9d. Having relieved themselves somewhat they are now asking £9. For prompt, closing quotations are:—Beckton, £9s. 5s.; London outside makes, £9. 2s. 6d.; Liverpool, £9. 2s. 6d. to £9. 3s. 9d.; Hull and Leith, £9. 2s. 6d. Nitrate of soda easier.

MISCELLANEOUS CHEMICAL MARKET.

In the alkali trade business is, on the whole, quiet, and export demand is not brisk. Prices on the whole are steady, and there are no changes of any importance during the week to record. Bleaching powder remains at £5. to £5. 2s. 6d., softwoods, free on rails, and hardwoods f.o.b. Liverpool. At £5. 15s. to £6. per ton chlorates are slightly lower in tone, quotations being: for potash 3¼d., and soda 3⅜d. per lb. Caustic soda is unchanged, though, if anything, rather an easier tendency for forward delivery. Current quotations f.o.b. Liverpool are as follows:—77%, £8. 5s.; 74%, £8.; 70%, £7. 2s. 6d.; 60%, £6. 2s. 6d. nett per ton. Ammonia alkali, 58%, firm at convention price of £4. 2s. 6d., bags, f.o.r. Soda crystals and bicarbonate are also firmly maintained. Sulphate of copper quiet at £15. 12s. 6d. to £15. 15s. f.o.b. Sulphur in good request, at £4. 12s. 6d. per ton. Saltcake in bulk is firm at 25s. per ton f.o.r. Brown acetate of lime slightly easier at £5. 5s. c.i.f. Grey at £7. per ton. Acetic acid is unaltered. For acetate of soda, demand is very light and price lower. All other acetates are quiet. Muriate of ammonia is quoted a little easier at £17. White powdered arsenic has further declined to £16. 15s. Garston. Prussiate of potash dearer at 6¾d. and firm thereat. Prussiate of soda 5¼d. per lb. Cyanide unchanged at 1s. 2d. per lb. Nitrate of soda is steady to firm for forward delivery. Sulphocyanides quiet and values unchanged. Aniline oil and salt remain at 5¼d. and 4¾d. per lb. respectively. Carbolic acid crystals and picric acid are slightly dearer. Glycerine continues to advance. Sulphate of iron is in good general request with rather a higher tendency in price.

REPORT ON MANURE MATERIAL.

The market is still rather quiet, but there is no weakness in any department.

For 1899 shipment there are sellers of Algerian 58/63% phosphate rock, in cargoes, c.i.f. to U.K., at 6¼d. per unit, and same price would no doubt be business for South Carolina. In the absence of recent business quotations for 77/80% Florida rock are nominal to U.K.

There is nothing to report in River Plate bones. On spot there are sellers of East India bone meal, at £4. 10s. per ton, ex-store. For Autumn shipment sellers ask £4. 15s. per ton, but for parcels afloat something under £4. 10s. would be accepted ex quay.

Owing to arrivals nitrate of soda is rather easier on spot, and 7s. 7½d. per cwt. would now be accepted ex quay.

A parcel of River Plate dried blood has been sold at 8s. 10½d. per unit, ex quay Liverpool.

THE METAL MARKETS.

LONDON, Wednesday.—Pig iron quiet: Scotch warrants closed at 45s. 9½d.; Middlesbro', 39s. 10½d. cash; and hematite,

Copper easier: Chili bars, G.O.B.'s and G.M.B.'s, closed at s. 9d. to £50. 3s. 9d. cash, and £50. 5s. 0d. to £50. 10s. 0d. onths. Tin steady: Straits closed at £69. 10s. 0d. to £70. d £69. 17s. 6d. to £70. 7s. 6d. three months; Australian, ; English ingots, £72. 5s. Lead weak: Spanish, £13. 2s. 6d. 5s.; English, £13. 8s. 9d.; Silesian spelter, ordinary, s. 6d. to £20. Nickel, 1s. 2½d. Antimony, £36. 10s. to Quicksilver: First hands, £7. 12s. 6d.; second hands, £7. 12s. *shares* steady: Cape, 4½ to 4⅝; Copiapo, $2\frac{7}{16}$ to $2\frac{9}{16}$; 1⅞ to 2⅛; Mason and Barry, 3⅝ to 3⅞; Rio Tinto, 25¾ ; Tharsis, 6 to 6¼.

SGOW, WEDNESDAY.—Market almost idle. Scotch done at l. cash and 46s. month; buyers, 45s. 9½d. cash; sellers, . Cleveland done at 40s. 1d. month; buyers, 39s. 10½d. cash; 39s. 11d. Cumberland hematite, buyers, 50s. 2d. cash; 50s. 3d. Middlesbrough hematite idle.

IVERPOOL OIL AND COLOUR MARKET.

WEDNESDAY.

.—Palm oil is quiet, and prices are nominal, in the absence of iness to test values. Olive is also quiet, there being sellers of on spot at £28. 10s. to £29. 10s. per tun. Linseed is steady to 18s. 6d. per cwt. for Liverpool makes in export casks. eed is dull, the market being sluggish. In consequence there been a small business done in Liverpool refined at 16s. to per cwt. Castor oil is but sparingly offered, holders of good Calcutta being firm at 3⅜d., whilst first pressure French is uiet at 3¼d. per lb. Tallow is steady in price, but the business limited. Resin is quietly steady at 5s. for common, 5s. 4½d. l. medium, and 5s. 6d. to 7s. 6d. for fine. Spirits of Turpentine ing more easily at 25s. spot. Forward lots offer now at 22s. cwt. Petroleum steady without change in values.

ES.—American Western linseed are rather pressed for sale on , and a further decline of 2s. 6d. is reported, but there has been ore inquiry experienced at £5. 12s. 6d. to £6. 5s., and Liver- kes are also 2s. 6d. easier, with sellers at £7. 12s. 6d. to per ton, according to brand. American decorticated cotton- her difficult at £5. 7s. 6d. to £5. 17s. 6d., according to quality, to choice brands, and Liverpool makes are also slow of sale l. under previous rates, viz., £6. to £7. per ton. Values of ticated Liverpool makes are £4. 2s. 6d. to £5., according to ut business is on a small scale thereat, whilst there is little doing in spot parcels of Egyptian, £3. 10s. to £4. per ton, g to make and quality.

OURS.—Prices are steady, and practically without change. Oxfordshire—common £10., medium £12, best £15.; ire—common 40s., medium 50s., best 60s.; Welsh—best 9 s., 50s., and common, 18s.; Devonshire, 40s. to 45s.; J.C., 65s. Umber: 40s. to 45s. White lead: £16. Red hanged. Venetian red: £6. to £10. Cobalt: Prepared s. 9d.; black, 9s.; blue, 6s. Oxide of iron: Common, £7.; , £10.; finest, £20. Zinc oxide: £22. 10s. to £25.

WEST OF SCOTLAND CHEMICALS.

GLASGOW, TUESDAY.

ate of ammonia in this section of the market has shown rather mness than it has of late. There has been no further appreciable way in value during the week, and buyers have been somewhat n arranging for their requirements as against the immediate A large bulk of sulphate has changed hands at £9. prompt, eith. So far as forward business is concerned, there has been e inquiry and no actual business—at least, nothing that has been ed to transpire. Sulphate of copper is easier again, and now t £15. 15s. per ton. Movement in common chemicals is rather notwithstanding that the present should be the most active time ic shipments. Oils and paraffins all as before, only naphthas are perhaps.

prices current are:—Soda crystals, £2. 5s. to £2. 12s. 6d. nett oda ash, 48/52°, £4. 2s. 6d. to £4. 15s. nett, Tyne; white alkali, £5. to £5. 10s. nett, Tyne; alum in lump, £4. 10s. to ett, Glasgow; caustic soda, white, 74° £8., 70/72° 6d., 60/62° £6. 2s. 6d., and cream 60/62° £6. all nett, Liver- leaching powder, 35/37°, £6. 5s. 0d. nett, Tyne; saltcake, 25s 0d. English, refined, £14., and boracic acid, £24, nett, Glasgow; nate of soda, 5-cwt. casks, £6. 12s. 6d., and 1-cwt. casks £7., iverpool; bichromate of potash, 3¾d., nett for Scotch and deliveries (for export, 3½d. nett, f.o.b. Glasgow); bichromate 3d. nett, for Scotch and English deliveries (for export, 2¾d. .b. Glasgow); chlorate of potash, 3¼d. less 5%, Liverpool; of soda, 7s. 6d. to 7s. 9d.; sulphate of ammonia, £9. 0s. 0d. , f.o.b. Leith; salammoniac, first and second white, £35. 33. nett, any port; sulphate of copper, £15. 15s. less 5% any araffin scale, hard, 1⅜d. to 1½d. per lb., soft, 1½d. per lb.; wax, 120° semi-refined, 1¾d. to 2d. per lb.; paraffin spirit (naphtha), 6½d. to 7d. per gallon; paraffin oil (burning), No. 1, 5¾d., and crystal, 6d., at Glasgow and other big centres, for Scotch buyers (English sales a shade lower); ditto (lubricating) 865° £4. 10s. to £5. 0s., 885° £5. 10s. to £6. and 890/895° £6. 5s. to £6. 15s. Week's imports of sugar at Greenock were 8,546 bags beet unrefined.

TYNE CHEMICAL REPORT.

TUESDAY.

Business in the chemical market still remains quiet and quotations are practically unchanged. The works on the Tyne are closed this week for the annual race holidays. Soda crystals in fair demand at £2. 12s. 6d. per ton, gross weight. Caustic, 70%, £7. 5s. to £7. 10s. per ton; 76/77%, £8. 5s. to £8. 10s. per ton. Sulphur scarce at £4. 15s. to £5. per ton.

Bleaching powder, softs, £5. 10s. per ton, nett; do. hards, £5. 15s. per ton, nett; caustic soda, 76/77% £8. 10s. and 70% £7. 10s. per ton, nett; recovered sulphur, 2 cwt. bags, £5. 0s. per ton, nett; soda ash, 48%, £4. per ton, nett; do., 50%, £4. 2s. 6d. per ton, nett; do., 52%, £4. 5s. per ton, nett; alkali, 36%, £3. 12s. 6d. per ton, nett; white alkali, 48%, £5. per ton, nett; do., 50%, £5. 5s. per ton, nett; do., 52%, £5. 10s. per ton, nett; hyposulphite of soda, 5-7 cwt. casks, £6. 5s. per ton, nett; do., 1 cwt. kegs, £7. per ton, nett; silicate of soda, 75° Tw., £2. 12s. 6d. per ton, nett; do., 100° Tw., £3. per ton, nett; do., 140° Tw., £3. 7s. 6d. per ton, nett; soda crystals, casks, £2. 12s. 6d. per ton, gross weight; do., 2 cwt. bags, £2. 12s. 6d. per ton, nett weight; chlorate of potash, 3½d. per lb., less 6% f.o.b. Liverpool; pearl hardening, £3. per ton, nett; pure white sulphate of alumina, £3. 17s. 6d. per ton, nett; blanc fixe, £7. 5s. per ton, nett; chloride of barium, refined crystals, £6. 15s. per ton, nett; do. 90/95% crude calcined, £6. per ton nett; sulphide of barium crystals, £4. 15s. per ton, nett; carbonate of alumina, £30. per ton, nett; aluminate of soda, £30. per ton, nett.

SALT.—In fairly good inquiry at 9s. 6d. to 10s. per ton, f.o.b. Tees. Several very large cargoes have lately been shipped to the East.

COALS.—Market is very firm and there is great scarcity, loading turns being fully booked until after the holidays. Quotations are well maintained at recent figures with strong demand. Best Northumbrian steam, 13s. 6d. to 14s. per ton; second qualities, 12s. 6d. to 13s. per ton; small steam, 5s. 6d. to 6s. per ton; gas coals, 10s. 0d. to 11s. per ton; bunker coals (unscoured), 9s. 6d. to 10s. per ton; coke, 18s. 6d. to 21s. per ton.

New Companies.

Bestwood Chemical Co., Ltd.—CAPITAL £4,700. in £1. shares. This company has been formed to adopt certain agreements, and to carry on the business of extractors and manufacturers of and dealers in products from furnace gases, tar distillers, manufacturing chemists, etc. The number of directors is not to be less than 2 nor more than 3. The first are R. & J. Dempster. Remuneration, £300. per annum divisible. Registered office, Ridings-street, Newton Heath, Manchester.

Earle, Ltd.—CAPITAL £5,000. in £1. shares. This company has been formed to acquire the business carried on by E. H. Earle at Hull, and Hessle, Yorks, to acquire the business carried on by E. H. Earle and H. C. Gooseman at Hull, and to carry on the business of chemists, druggists, drysalters, etc. The number of directors is not to be less than 3 nor more than 7; the first are to be nominated by E. H. Earle, managing director. Qualification and remuneration as fixed by the company. Registered office, 22, Market Place, Kingston-upon-Hull.

Fairbrothers, Ltd.—CAPITAL £50,000. in £1. shares. This company has been formed to adopt an agreement with E. H. Brown, and to manufacture, sell, and deal in soaps, candles, colours, dyes, paints, chemicals, explosives, drugs, drysalteries, etc. The subscribers to the memorandum of association are:—E. H. Brown, 23, St. Leonard's-road, East Sheen, secretary; F. Andrews, Lovelace Gardens, Surbiton, gent; W. H. Weller, 31, Gt. Russell-street, W.C., accountant; W. Redmond, 8, Lexham Gardens, W., retired major; C. F. Wainwright, Lovelace-road, Surbiton, secretary; A. Hebden, Lynstead, The Park, East Molesey, secretary; W. S. Norman, 30, Gordon-road, S.E., accountant.

Petroleum Exploration Association, Ltd.—CAPITAL £20,000. in £1. shares. This company has been formed to adopt an undescribed agreement, and to acquire, own, and work any petroleum or oil-bearing lands in Galicia, Russia, or elsewhere. The subscribers to the memorandum of association are:—G. A. J. Smallman, Ranelagh House, New Southgate, clerk; D. J. Prosser, 12, Matham Grove, E. Dulwich, clerk; W. W. P. Gaskell, Shangarry, Wandsworth Common, gent.; T. H. Riches, Shenley-road, Camberwell, clerk; E. T. Church, 48, Geneva-road, Brixton, clerk; A. S. Cohen, 129 Highbury New Park, N., clerk; F. H. Goodwin, 27, Dynevor-road, Stoke Newington, clerk.

IMPORTS OF CHEMICAL PRODUCTS AT THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 11th.

Acetate of Lime—
U. States, 238 pks. Johnson & Hooper

Acetic Acid—
Holland, 120 pks. Phillipps & Graves
" 20 T. H. Lee
" 49 R. W. Greeff & Co.

Acetone—
Germany, 10 pks. D. T. Domeier & Co., Ld.
Austria, 15 "

Alkali—
Belgium, 1,340 c. R. Waters
Holland, 430 "
France, 205 J. Harrison
Germany, 10 R. W. Greeff & Co.

Alum—
Germany, 34 pks. R. W. Greeff & Co.

Ammonia—
Holland, £67 H. Lore 12

Ammonium Bromide—
Germany, 10 pks. R. W. Greeff & Co.

Arsenic—
Portugal, 195 pks. Coverley & Westray

Asbestos—
Canada, £250 Deering & Robottom
Germany, 10 Craven & Co.
Canada, 135 S. Devon Wf. Co.

Barytes—
Germany, 29 pks. P. Jantzen
" 67 J. L. Lyon & Co.
" 444 W. Harrison & Co.
Belgium, 72 "
Holland, 335 "
" 43 Taylor Brs.
" 120 Union L. Co., Ld.
Belgium, 595 J. L. Lyon & Co.

Bleaching Powder—
France, £55 J. M. Steel & Co.

Bone Meal—
N. Russia, 140 t. Anglo-Contl. Guano Wks.

Bones—
Gibraltar, 54 t. D. de Pass & Co.

Caoutchouc—
Straits, 355 c. Gilman Brs. & Co
" 101 Huttenbach & Co.
Germany, 14 L. & I. D. Jt. Co.
E. Indies, 11 "
Zanzibar, 75 "
Holland, 9 W. M. Smith & Sons
E. Indies, 15 Stewart, Holt & Co.
France, 20 H. Johnson & Sons
Calcutta, 12 Prop. Bull Wf.

Carbolic Acid—
Germany, 75 pks. Blagden, Waugh & Co

Caustic Potash—
Germany, 32 pks. J. M. Steel & Co.
" 111 D. T. Domeier & Co., Ld.
France, 20 Petri Brs.
Holland, 40 J. M. Steel & Co.

Chemicals (*otherwise undescribed*)
Germany, £425 A. & M. Zimmermann
" 83 Butler's Wf., Ld.
Sydney, 60 L. & I. D. Jt Co.
France, 105 Mory & Co.
Germany, 25 R. W. Greeff & Co.
Belgium, 111 T. Palmer
Holland, 123 J. Barber & Co.
" 90 A. & M. Zimmermann
" 190 T. H. Lee
Belgium, 10 John Cockerill Line
Germany, 160 L. & I. D. Jt. Co.
" 50 Phillipps & Graves
Sweden, 5 M. D. Co.
Germany, 33 Drobenvaux & Bremmer
Holland, 25 Little & Johnston
" 35 Hernu. Peron & Co.
" 28 Typke & King
Belgium, 60 E. J. Catlin
Germany, 450 Anglo-Contl. Guano Wks.
France, 160 B. & F. Wf. Co.

Copper Sulphate—
Germany, 1160 Butler's Wf., Ld.

Cream of Tartar—
France, 4 pks. J. L. Lyon & Co.
" 7 B. & F. Wf. Co.
Spain, 5 "
" 136 A. Owen
France, 15 W. C. Bacon & Co.
" 5 M. Ashby, Ld.

Dyestuffs—

Argols
Italy, 409 pks. B. Jacob & Sons
" 17 Thames S. T. & L. Co.
Spain, 537 A. Owen
Portugal, 5 L. & I. D. Jt. Co.

Cochineal
Canaries, 16 pks. W. M. Smith & Sons
" 30 L. & I. D. Jt. Co.
" 8 Champion & Co., Ld.

Extracts
Italy, 34 pks. Fellows, Morton & Co.
" 200 Boutcher, Mortimore & Co.
U. States, 53 W. Burton & Sons
France, 215 T. H. Lee
Italy, 400 Union L. Co., Ld.
Belgium, 8 T. H. Lee
France, 50 L. J. Levinstein & Sons

Fustic
U. States, 10 bdls. ———

Gambier
Straits, 467 pks. Beresford & Co.
" 225 J. Greig
" 2 9 J. Swire & Sons
" 452 T. W. Brand

Indigo
Madras, 36 chts. L. & I. D. Jt. Co.
" 11 P. Macfadyen & Co.
" 67 Parry & Co.
" 36 Arbuthnot, Latham & Co.
Calcutta, 10 cs. Stutz & Co.
Madras, 9 H. J. Perlbach & Co
" 13 R. Von Glehn & Sons
" 4 J. Forsey

Myrabolams
E. Indies, 2,009 pks. H. J. Perlbach & Co.
" 1,358 W. Shelcott
" 183 F. Claydon & Co.
" 1,367 Simson & Co.
Calcutta, 6,000 P. & O. Co.
" 1,600 Montgomerie & Workman

Saffron
Spain, 1 pk. Prop. Midd. Wf.

Tanners' Bark
Belgium, 762 t. Leach & Co.
Melbourne, 13 Hicks, Nash & Co.

Turmeric
E. Indies, 164 pks. L. & I. D. Jt. Co.

Farina—
Holland, 3 pks. Phillipps & Graves

French Chalk—
France, £38 A. Zumbeck & Co.

Glucose—
Germany, 35 pks. 285 c. Deering & Robottom
" 8 60 J. Knill & Co.
France, 400 400 L. Norman
U. States, 100 250 Phillipps & Graves
" 702 996 L. & Til. Ltge. Co.
" 100 580 Deering & Robottom
" 50 306 R. Johnson & Co.
" 2,200 2,190 Fellows, Morton, & Co.
" 50 308 Wilson & Furness Leyland Line
" 750 900 Page, Son & East
" 100 567 A. E. Piggott
" 200 1,000 Lipton, Ld.
" 2,800 2,800 E. Thompson & Co.
" 1,000 1,000 L. & I. D. Jt. Co.
" 50 286 J. Keiller & Co.
" 1,950 4,211 Oblenschlager Brs.
" 750 750 Beresford & Co.
" 9,331 13,188 R. G. Hall & Co.
" 1,000 1,000 L. Norman & Co., Ld.
" 250 250 C. S. Lovell
" 496 496 C. Mangold & Co.
" 250 250 Thames S. T. & L. Co.
" 1 0 590 W. Balchin, Ld.
" 150 900 E. & T. Pink

Glue—
Belgium £116 T. H. Lee
Holland, 320 M. H. Viss
Belgium, 795 J. Barber & Co.
Italy, 68 Thew & Steibel
Germany, 30 Craven & Co.
" 38 Phillipps & Graves
" 350 Steinhoff, Sons & Co.
" 75 L. & I. D. Jt Co.
Holland, 20 Hillman, Kerr & Co.
Germany, 60 Hermann Keller & Co.
France, 60 Burnett Brs. & Sons
" 210 Duche & Son
" 84 Bennett S. S. Co.
Germany, 28 Butler's Wf., Ld.
Holland, 12 Phillipps & Graves
Germany, 600 Deering & Robottom
U. States, 420 Armour & Co.

Glue Stock—
Calcutta, 110 bls. A. B. Curtis & Co.
Belgium, 101 Leach & Co.
Germany, 216 W. Balchin, Ld.
" 64 Hicks, Nash & Co.
E. Indies, 70 J. W. Cook & Co., Ld.
Melbourne, 1 Hicks, Nash & Co.

Glycerine—
Holland, £50 J. Owen
" 400 J. Barber & Co.
France, 460 H. Hill & Sons

Gutta Percha—
Straits, 500 c. Huttenbach & Co.
" 143 Gilman Brs. & Co.
" 303 Anderson, Weber & Smith

Infusorial Earth—
Germany, £33 Snowdon, Sons & Co.

Lead Acetate—
France, £125 F. Smith
Germany, 85 R. W. Greeff & Co.

Litharge—
Germany, 8 pks. J. Barber & Co.
" 10 Fleming's Oil & Chemical Co.

Manganese—
Japan, 200 t. Fellows, Morton & Co.

Manure—
Belgium 4 t. T. Ronaldson & Co.
Bombay, 200 A. Hunter & Co.

Methyl Alcohol—
U. States, 99 brls. J. Whaley

Mica—
Calcutta, £194 A. B. Curtis & Co.
Germany, 12 Craven & Co
France 40 Blackwell & Co
Calcutta, 270 Dundee, Perth & Ldn.
E. Indies, 64 A. E. Piggott
Cape, 14 Balfour & Co.

Molasses—
Germany, 1,415 brls. 7,23 c. J. R. Francis & Co.
U. States, 209 1,273 Wilson & Furness Leyland Line

Naphtha—
Germany, 12 dms. W. Simpson & Co.

Nitre—
Chili, 17,626 bgs. R. W. Grace & Co.

Ochre—
France, 31 pks. Ellam, Jones, & Co.
Holland, 10 Phillipps & Graves
France, 30 J. L. Lyon & Co.
U. States, 153 Corticine Floor Covering Co.

Paraffin Scale—
U. States, 4,108 brls. Anglo-American Oil Co.

Paraffin Wax—
Canada, 340 brls. H. Hill & Sons
U. States, 800 Anglo-American Oil Co.
" 440 Palmer & Co., Ld.
" 100 H. Hill & Sons
" 100 L. Abbott & Co.

Pearl Ash—
France, 200 c. F. W. Berk & Co., Ld

Phosphate of Lime—
Belgium, 100 t. Anglo-Contl. Guano Works
" 231 Odams Manure & Chemical Co.

Phosphate Rock—
Algeria, 820 t. A. Ford & Co.

Pitch—
Sweden, 30 cks. D. Smith
Holland, 25 brls. H. H
" 40 cks. Poth, Hille, &

Plumbago—
Ceylon, 118 bls. Beresford &
" 40 R. G. Hall &
Italy, 100 B. Gall

Potash—
Canada, 143 c. S. Warde &

Potassium Bromide—
Germany, 10 pks. R. W. Greeff &

Potassium Carbonate—
Germany, 200 c J. M. Steel &
France, 150 W. E. Cole &
Germany, 100 Beresford &
" 100 Peri
" 850 Hose & Scri

Potassium Muriate—
Germany, 300 bgs. F. W. Berk &

Potassium Oxalate—
Holland, £45 R. W. Greeff &

Potassium Prussiate—
Holland, £30 Blagden, W

Potassium Sulphate—
Germany, 10 pks. R. W. Greeff

Rosin—
U. States, 4,450 brls. H. Hill &
" 530 T. Wickels
" 200 E. Cook
" 250 Perkins & H
Holland, 10 cks. J.

Salicylic Acid—
Germany, 11 pks. Butler's Wf

Saltpetre—
Calcutta, 223 bgs. Baring Brs.
" 515 Perkins & H
" 3,918 Lucas & Spence
Holland, 4 cks. J.
E. Indies, 2 9 bgs. L. & I. D. J
Germany, 30 cks. J. Hall &

Soap—
Belgium, £60 D. C. Thomas &

Soda—
Holland, 100 c. R. W. Greef
France, 318 Burnett Brs. &

Sodium Prussiate—
Belgium, 58 pks. Blagden, W

Starch—
Germany, 2,170 pks. Home
Belgium, 265 T. H
U. States, 70 Beck & Pol
Holland, 611 Little & Joh
" 138 Phillipps & G
Belgium, 250 Leach
" 80 Taylo
" 460 E. & T.
France, 400 "
Belgium, 270 F. Claydon
Germany, 400 Anglo S. S
France, 5 L. P. I

Stearine—
U. States, 8 hds. Wilson's & Fu
" 10 brls. Finsler & W
Belgium, 252 bgs. H. Hill &
France, 300 G. Boor
France, 100 Bennett S. S

Sulphur—
Italy, 31 t. Soundy &

Tallow—
Queensla'd, 110 cks. Phillipps & G
N. Zealand, 5 L. & I. D. J
Belgium, 6 J. Ha
U. States, 100 Colchester & W

Tannic Acid—
Germany, 6 pks. R. W. Greeff

Tartaric Acid—
Italy, 14 pks. F. C. Devon
Holland, 2 "
Belgium, 2 "
" 3 J. Ha

Tartars—
Italy, 11 pks. Fellows, M

Ultramarine—
Germany, 30 pks. Steinhoff, Sons
Holland, 10 W. Harrison
" 10 J. Barber
Belgium, 6 Taylo
" 6 J. Ha

Varnish—
U. States, 6 pks. Dawson Brs.
Bombay, 1 Wilkinson, Heywood, & Co.
Belgium, 6 Stobbs, Wilson, & Co.
France, 62 Suter, Hartmann, & Co.

Waste Salt—
Germany, 5 t. Butler's Wf., Ld.
" 51 Perkins & Homer

White Lead—
Belgium, 50 pks. Burrell & Co.
" 34 J. L. Lyon & Co.
" 45 T. & W. Farmiloe, Ld.
Holland, 29 Burrell & Co.
Austria, 10 T. Palmer
Germany, 13 W. A. Rose & Co.
" 60 D. Storer & Sons
Holland, 73 J. Owen

Wood Pulp—
Sweden, 320 pks. Alsing & Co., Ld
Norway, 2 M. D. Co.
Portugal, 250 Page, Son, & East
Germany, 609 L. & I. D. Jt. Co.
" 924 F. Claydon & Co.
" 250 Beck & Pollitzer
Sweden, 81 L. & N.-W. Rly. Co.
U. States, 2,100 Pickford & Co.
Norway, 3,379 W. D. Cork
U. States, 73 Beck & Pollitzer
Austria, 50 M. D. Co.
Norway, 8 Johnsen & Jorgensen
" 1,200 J. Sharp
Holland, 400 Ekman Pulp & Paper Co.

Zinc Oxide—
Holland, 40 pks. M. Ashby, Ld.
Germany, 500 Soundy & Sons
" 4 J. Barber & Co
Holland, 150 Burrell & Co.

LIVERPOOL.

Week ending June 9th.

Albumen—
Naples, 5 cs.

Alkali—
Antwerp, 10 dms. J. T. Fletcher & Co.

Aluminium—
New York, 3 cs. T. Ashbury

Barytes—
Rotterdam, 43 cks 20 bgs.

Bones—
Alexandria, 99 bgs.

Castor Oil—
Marseilles, 12 brls. J. J. Mack & Sons
" 124 39 cs.
Calcutta, 1,000
Leghorn, 30

Citric Acid—
Messina, 16 cks.

Colours—
Stettin, 16 brls. Evans, Sons & Co.
" 150 cks.
Rotterdam, 4
Hamburg, 21 cs.
Ghent, 6 brls. J. T. Fletcher & Co.

Cream of Tartar—
Bordeaux, 36 cks.

Dyestuffs—
Argols
Leghorn, 1 ck
Cochineal
Las Palmas, 93 bgs. Klop. Kullmann & Co.
" 22 Roberts, Evans & Co.
" 4 Sperling & Williams
" 23 Canary Islands Trading Co.
Divi Divi
Amsterdam, 30 bgs. Browne, Geveke & Co.
Extracts
Fiume, 794 brls.
Genoa, 50
Baltimore, 50
Myrabolams
Bombay, 620 bgs. D. Sassoon & Co.
Saffron
Valencia, 1 bx.
Shumac
Marseilles, 11 bls.
Palermo, 1,250 bgs.
Valonia
Patras, 1,482 bgs.
Syra, 320

Dyestuffs *(otherwise undes.)—*
New York, 81 cs.

Glucose—
Boston, 250 brls. Walden & Benham
" 300
" 50 Rogers Holloway
New York 200 "
" 500 L. Sutro & Co.

Glue—
Rouen, 33 cks. Co-op. W'sale Society, Ld.
St. Nazaire, 22
Fiume, 100 bgs.
Rotterdam, 140

Glycerine—
Punta Arenas, 111 dms. Duncan, Fox & Co.

Guttapercha—
Burutu, 85 bgs. Royal Niger Co.

Insecticides—
Trieste, 20 brls.

Limestone—
Antwerp, 1 crt.

Litharge—
Rotterdam, 15 cks.

Manganese Borate—
Hamburg, 4 cks.

Manganese Ore—
Poti, 1,850 t.

Mica—
Marseilles, 10 cs.

Molasses—
N. Orleans, 1,014 brls. A. B. Booth

Ochre—
Marseilles, 15 brls. M'Kellar, Carr & Co.
" 28
Boston, 29 cks. Co-op W'sale Society, Ld.

Paint—
Las Palmas, 5 pks. J. T. Nickels
Boston, 15 cs.

Paraffin Scale—
Baltimore, 100 brls.

Phosphate—
Antwerp, 300 bgs.

Phosphate Rock—
Brunswick, Ga., 2,504 t.

Potash—
Rouen, 102 cks. Co-op. W'sale Society, Ld.
Rotterdam, 70

Potassium Prussiate—
Rotterdam 4 cks.

Pumice Stone—
Marseilles, 1 ck.
Messina, 50 bgs. 15 brls.

Pyrites—
Huelva, 3,303 t. Matheson & Co.
" 1,098 H. Bath & Son

Silver Sulphide—
Vera Cruz, 9 cs. Elliot's Metal Co.
" 22 Bessler, Waecher & Co.

Soap—
Marseilles, 35 dms. 30 cs. 121 bxs.
New York, 5 cs. Colgate & Co.
Bari, 111
Marseilles, 52 bxs. W. H. Flett, Ld.

Soapstone—
Bordeaux, 450 bgs. Geo. G. Blackwell, Sons & Co.

Sodium Phosphate—
Antwerp, 3 cks.

Starch—
New York, 591 bgs. T. M. Duche & Sons
" 1,823
Antwerp, 406 cs. J. T. Fletcher & Co.
" 451
Rotterdam, 60 Browne, Geveke & Co.
" 100
Hamburg, 80
Baltimore, 110 brls. Jas. Howard & Co.

Stearine—
Antwerp, 26 bgs. J. T. Fletcher

Sulphur—
Catania, 810 bgs. 100 t. 5 cks.

Tallow—
Boston, 829 tcs. 610 brls.
Zarate, 275 pps. London & Brazil Bk., Ld.
New York, 380 tcs. 422 hds.

Tartaric Acid—
Marseilles, 40 cks.
Rotterdam, 3

Turpentine—
Marseilles, 4 pks.

Ultramarine—
Rotterdam, 20 cks.

Waste Salt—
Hamburg, 111 t. 200 bgs.

White Lead—
Rotterdam, 9 cks.

Wolfram—
Hamburg, 5 cs.

Wood Pulp—
New York, 120 bdls.
Rotterdam, 153 bls. 40 pks.

Zinc Ashes—
Marseilles, 9 cks.
New York, 26 brls.

Zinc Oxide—
Hamburg, 25 cks.
Marseilles, 40 brls.
Antwerp, 105
Rotterdam, 10

MANCHESTER.

Week ending June 11th.

Albumen—
Hamburg, 1 ck.

Ammonia—
Rotterdam, 25 cyldrs. Wilson, Sons, & Co., Ld.

Ammonium Chloride—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Aniline Colours—
Rouen, 1 ck.

Aniline Salts—
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Cement—
Antwerp, 2,190 bgs.

Chemicals *(otherwise undescribed)*
Rotterdam, 1 ck. Wilson, Sons, & Co., Ld.

Colours—
Antwerp, 13 cks.
Hamburg, 3
Rotterdam, { 15 7 cs. 6 bxs. 102 brls. 89 pks. Wilson, Sons, & Co., Ld.
Treport, 4 cks.

Dextrine—
Hamburg, 2 bgs.

Dyestuffs—
Alizarine
Rotterdam, 19 cks. Wilson, Sons, & Co., Ld.

Farina—
Hamburg, 550 bgs.
Rotterdam, 4 cks. Wilson, Sons, & Co., Ld.

Glucose—
New York, 1,091 brls.

Glue—
Hamburg, 4 cks.
Rotterdam, 18 bgs. Wilson, Sons, & Co., Ld.
Rouen, { 60 cs. 22 cks. 28 bls.
Treport, 26

Lead Acetate—
Rotterdam, 41 cks. Wilson, Sons, & Co., Ld.

Lime Acetate—
New York, 1,420 bgs.

Limestone—
Ghent, 2 cs.

Litharge—
Rotterdam, 42 tcs. Wilson, Sons, & Co., Ld.

Mineral White—
Bordeaux, 100 bgs. G. G. Blackwell, Sons, & Co.
" 100 J. & P. Hutchison

Nitrobenzol—
Rotterdam, 6 tins Wilson, Sons, & Co., Ld.

Oxalic Acid—
Rotterdam, 16 cks. Wilson, Sons, & Co., Ld.

Paint—
Hamburg, 20 cks. 20 dms.

Potash—
Treport, 1 ck.

Salt—
Hamburg, qty.
Rotterdam, 20 cks. Wilson, Sons, & Co., Ld.

Sodium Phosphate—
Antwerp, 1 brl.

Sodium Sulphide—
Rotterdam, 12 cks. Wilson, Sons, & Co., Ld.

Starch—
Antwerp, 412 cs.
New York, 2,200 bgs. 100 sks.

Tar—
Treport, 4 cks.

Tartaric Acid—
Rotterdam, 32 cks. Wilson, Sons, & Co., Ld.

Tin Chloride—
Antwerp, 21 brls.

Varnish—
New York, 1 bx.

White Lead—
Antwerp, 5 cks.

Wood Pulp—
Gothenburg, 1,246 bdls.
New York, 97
Rotterdam, 8 pks. Wilson, Sons, & Co., Ld.
Sundswall, 1,246 bls. W. H. Stott & Co.

Zinc Oxide—
New York, 100 brls.
Rotterdam, 80 Wilson, Sons, & Co., Ld.

Zinc Sulphate—
Rotterdam, 1 brl. Wilson, Sons, & Co., Ld.

Zinc White—
Rotterdam, 50 cks. Wilson, Sons, & Co., Ld.

GLASGOW.

Week ending June 16th.

Acids—
Antwerp, 12 cks.

Barium Chloride—
Rotterdam, 8 cks. J. Rankine & Son

Barium Sulphate—
Antwerp, 4 cks. 400 bgs.

Barytes—
Rotterdam, 100 bgs. J. Rankine
68 cks. & Son

Chemicals *(otherwise undescribed)*
Antwerp, 6 cs.

Chrome Alum—
Rotterdam, 15 brls. J. Rankine & Son

Colours—
Rouen, 2 cks.
Antwerp, 7 4 cs.
Rotterdam, 179 pks. J. Rankine & Son

Cream of Tartar—
Barcelona, 7 cks.

Disinfectants—
Antwerp, 5 crbys.

Dyestuffs—
Alizarine
Rotterdam, 22 brls. J. Rankine & Son
Aniline
Rotterdam, 9 brls. J. Rankine
8 bxs. &Son
Extracts
Antwerp, 2 cks. 10 cs.
New York, 3 pks.

Dyestuffs *(otherwise undescribed)*
New York, 4 kgs.

Glucose—
New York, 100 brls. Waddell & Bryson
" 1,497

Glue—
New York, 96 brls.
Hamburg, 38 bgs.

Guttapercha—
Antwerp, 72 bls.

Infusorial Earth—
Hamburg, 156 cks.

Mica—
New York, 301 bgs.

Ochre—
Rotterdam, 7 cks. J. Rankine & Son
Antwerp, 3
Rouen, 94

Olive Oil—
Seville, 123 brls.

Paint—
Amsterdam, 5 brls. 12 dms. J. Rankine & Son

Painters' Colours—
Antwerp, 16 cks.

Potash—
Antwerp, 40 cks.
Rotterdam, 20 J. Rankine & Son

Saltpetre—
Antwerp, 44 cks.
Hamburg, 40

Soap—
Antwerp, 1 cs.
New York, 1,500 2,600 bxs.

Starch—
Antwerp, 40 cs.

Stearine—
Amsterdam, 62 bgs. J. Rankine & Son
Antwerp, 95

Tartaric Acid—
Rotterdam, 3 cks. J. Rankine & Son

Ultramarine—
Rotterdam, 2 cks. J. Rankine & Son

Varnish—
New York, 6 brls.

Waste Salt—
Antwerp, 263 cks.

White Lead—
Rotterdam, 60 cks. J. Rankine & Son

Wood Pulp—
Quebec, 6,280 bdls. Clyde Paper Co.
Gothenburg, 709
Christiania, 750

Zinc Oxide—
New York, 300 brls.
Antwerp, 65 cks.

Zinc Sulphate—
Rotterdam, 5 brls. J. Rankine & Son

Zinc White—
Rotterdam, 35 pks. J. Rankine & Son

HULL.

Week ending June 11th.

Acetic Acid—
Rotterdam, 9 blns. Wilson, Sons, & Co., Ld.

Albumen—
Riga, 2 brls.

Alum—
Hamburg, 16 cks. Wilson, Sons, & Co., Ld.

Arsenic—
Hamburg, 100 kgs. Wilson, Sons, & Co., Ld.

Barytes—
Antwerp, 107 cks. Bailey & Leetham, Ld.
Bremen, 23 Veltmann & Co.
" 102 Blundell, Spence, & Co.

Binitrobenzol—
Rotterdam, 9 cks. W. & C. L. Ringrose

Carbolic Acid—
Amsterdam, 50 cks. W. & C. L. Ringrose

Castor Oil—
Marseilles, 6 cks. Wilson, Sons, & Co., Ld.
" 49

Chemicals *(otherwise undescribed)*
Antwerp, 10 brls. Wilson, Sons, & Co., Ld.
Hamburg, { 3 pks. 1 ck. "
Leghorn, 42 "
Stettin, 2 "

Colours—
Amsterdam, 3 cks. Hutchinson & Son
Antwerp, 2 Wilson, 9 pks. Sons, & Co., Ld.
Bremen, 1 cs. J. Pyefinch & Co.
Ghent, 49 cks. Wilson, Sons, & Co., Ld.
Hamburg, 6 W. P. Mathiessen
" 6 cs. G. Malcolm & Son
Rotterdam, 2 cks. W. & C. L.
2 cs. Ringrose
" 1 Wilson, 3 cks. Sons, & Co., Ld.
" 34 pks. Hutchinson & Son

Cream of Tartar—
Rotterdam, 2 cks. Hutchinson & Son

Dyestuffs—
Alizarine
Rotterdam, 33 brls. Hutchinson
26 pks. & Son
Valonia
Smyrna, 286 t.

Dyestuffs *(otherwise undescribed)*
Hamburg, 30 bgs. Wilson, Sons, & Co., Ld.
Antwerp, 50 bls. "

Farina—
Antwerp, 75 bgs. Wilson, Sons, & Co., Ld.
Hamburg, 100 W. Gilyott & Co.
" 100
Harlingen, 100 W. & C. L. Ringrose
Stettin, 148 Wilson, Sons, & Co., Ld.

Glucose—
New York, 210 brls. Wilson, Sons, & Co., Ld.

Glue—
Antwerp, 20 bls.
Bremen, 6 bgs. Veltmann & Co.
Christiansund, 2 brls. Wilson, Sons, & Co., Ld.
Dunkirk, 16 cks. "
New York, 1 cs. "
Rotterdam, 15 bgs. Hutchinson & Son
Rouen, 25 bls. Rawson & Robinson
Stettin, 2 cks. Wilson,
20 bgs. Sons, & Co., Ld.

Kaolin—
Rotterdam, 218 bgs. Hutchinson & Son

Litharge—
Rotterdam, 7 cks. Hutchinson & Son

Lithopone—
Amsterdam, 20 cks. W. & C. L. Ringrose

Mica—
Genoa, 12 bgs.

Ochre—
Bremen, 6 cks. Veltmann & Co.
Marseilles, 100 Wilson, Sons, & Co., Ld.
" 66
Rotterdam, 3 pks. Hutchinson & Son
Rouen, 34 cks. Rawson & Robinson

Paint—
Amsterdam, 1 dm. W. & C. L. Ringrose

Pitch—
Rotterdam, 143 cks. W. & C. L. Ringrose
St. Petersburg, 243 Wilson, Sons, & Co., Ld.

Plumbago—
New York, 4 brls. Wilson, Sons, & Co., Ld.

Potash—
Antwerp, 176 dms. Wilson, Sons, & Co., Ld.
Dunkirk, 5 cks. "

Pumice Stone—
Leghorn, 17 cs. Wilson, Sons, & Co., Ld.
" 9 cks.

Soap—
Marseilles, 15 cs. Wilson, Sons, & Co., Ld.

Soda—
Antwerp, 100 bgs. Bailey & Leetham, Ld.
Ghent, 100 Wilson, Sons, & Co., Ld.
Antwerp, 200 "

Starch—
Amsterdam, 10 kgs. W. & C. L.
80 cs. Ringrose
Antwerp, 80 Bailey & Leetham, Ld.
" 250 Wilson, Sons, & Co., Ld.
Bremen, 1,610 Veltmann & Co.
Ghent, 383 Wilson, Sons, & Co., Ld.

Stearine—
Antwerp, 50 bgs. Wilson, Sons, & Co., Ld.

Tallow—
Dunkirk, 227 cks. Wilson, Sons, & Co., Ld.
Hamburg, 32 "
New York, 275 "

Tar—
Copenhagen, 50 brls. Wilson, Sons, & Co., Ld.
Stockholm, 10 "

Tartaric Acid—
Rotterdam, 2 cks. Wilson, Sons, & Co., Ld.
" 4 Hutchinson & Son
" 2 W. & C. L. Ringrose

Ultramarine—
Bremen, 12 cks.
Rotterdam, 5 Hutchinson & Son
Rotterdam, 2 W. & C. L. Ringrose

White Lead—
Amsterdam, 52 cks. W. & C. L. Ringrose
Antwerp, 30 Bailey & Leetham, Ld.
Rotterdam, 34 Hutchinson & Son

Wood Pulp—
Bergen, 256 bls. Wilson, Sons, & Co., Ld.
Christiania, 600 "
Christiansand, 168 "
Drontheim, 761 "
Gothenburg, 830 "
Hamburg, 170 "
New York, 369 "

Zinc Oxide—
Hamburg, 5 cks. Bailey & Leetham, Ld.
Rotterdam, 20 W. & C. L. Ringrose

TYNE.

Week ending June 11th.

Barytes—
Rotterdam, 80 bgs. Tyne S. S. Co.

Colours—
Antwerp, 2 cks. Tyne S. S. Co.

Manganese Ore—
Harburg, 178 t. Cameron, Swan, & Sons

Phosphates—
Antwerp, 140 t. Langdale's Chemical M. Co.

Pyrites—
Huelva, 1,621 t. Tharsis Sulphur & Copper Co.

Soap—
Rotterdam, 2 cs. Tyne S. S. Co.

Starch—
Antwerp, 80 cs. Tyne S.
Rotterdam, 30 "

Wood Pulp—
Christiania, 500 bls.
Rotterdam, 100 Tyne S.

GOOLE.

Week ending June 8th.

Alizarine—
Rotterdam, 62 cks. 3 cs.

Alum—
Rotterdam, 21 bgs.

Aniline—
Hamburg, 1 cs.
Rotterdam, 159 cks. 32

Antimony—
Boulogne, 4 cks.

Bark—
Antwerp, 240 bgs.

Barytes—
Rotterdam, 50 bgs.

Caoutchouc—
Boulogne, 6 cks. 1 bl

Carbonate of Lime—
Antwerp, 133 bgs.

Colours—
Hamburg, 2 cks. 4 cs.

Dyestuffs *(otherwise undescrib*
Argentina, Colastine, { 400 t.
Hamburg, 68 pcs.
Boulogne, 194 cks.
Rotterdam, 30 15 cs.

Extracts—
Hamburg, 110 bgs.

Farina—
Hamburg, 300 bgs.

Glucose—
Hamburg, 20 cks

Glue—
Rotterdam, 15 cs.

Potash—
Antwerp, 20 bls.
Rotterdam, 13 cks.

Salt—
Hamburg, 11 cks. 5 cs.

Saltpetre—
Rotterdam, 70 bgs.

Starch—
Ghent, 150 bxs.

Tartar—
Hamburg, 5 kgs.
Rotterdam, 6 cks.

Waste Salt—
Hamburg, { 1,074 cks. 390 t.

Wood Pulp—
Rotterdam, 103 bls.

GRIMSBY.

Week ending June 11th.

Barytes—
Hamburg, 20 cks.

Caoutchouc—
Hamburg, 63 cs.
Rotterdam, 1

Chemicals *(otherwise undescr*
Hamburg, 1 ck.
Rotterdam, 10

Colours—
Antwerp, 2 cks. 75
Hamburg, 8 17 cs. 4
Rotterdam, 2

Farina—
Hamburg, 200 bgs.

Wood Pulp—
Malmo, 400 bls.

EXPORTS OF CHEMICAL PRODUCTS
OF
THE PRINCIPAL PORTS OF THE UNITED KINGDOM.

LONDON.

Week ending June 15th.

Alkali—
Madras, 14 c. £23
Azores, 6 t. 8 23

Alum—
Sourabaya, 46 t. 5 c. £250
Samarang, 11 16 61

Ammonia—
Shanghai, 3 cks. £35

Ammonium Carbonate—
Bremen, 9 pks. £18

Ammonium Chloride—
Santos. 16 c. £4
Constantinople, 2 t. 10 73
Varna, 9 13
Rio de Janeiro, 8 18

Ammonium Muriate—
Odessa, 11 cks. £54

Ammonium Sulphate—
Colombo, 15 t. 17 c. £164
Rouen, 18 4 162
Madeira, 61 7
Hamburg, 50
Bremen, 40
Rotterdam, 25

Amorphous Phosphorus—
Lisbon, 9 c.

Anhydrous Ammonia—
Antwerp, 100 cylds.

Dyes
Rotterdam, 13 pks.
Naphthylamine
Marseilles, 63 bgs.
Pitch
Antwerp, 401 t.
Rochefort, 779
Galatz, 4 cks.
Tar
Hong Kong, 10 pks.

Copper Sulphate—
Havre, 19 t. 15 c. £317
Braila, 5 81
Trieste, 20 1 3 q. 324
Venice, 54 7 2 877
Bordeaux, 83 8 1 1,356
Bombay, 5 82
Naples, 25 3 2 399
Odessa, 13 16 3 225
Rouen, 42 12 3 783
Nantes, 69 2 3 1,116
St John's, N.B., 9 2 8
Galatz, 6 8 2 103
Bari, 1 6 22
Cette, 54 9 871
Genoa, 7 13 1 120
Calcutta, 5 81
Sao Paulo, 1 19 1 34
Kustendjie, 10 9
Piræus, 2 12 41
Hamburg, 20 1 2 320
Ibrail, 1 18
Ghent, 9 15 3 156

Cream of Tartar—
Sao Paulo, 1 t. £72

Disinfectants—
E. London, 1 cs. £5
Calcutta, 5 t. 6 c. 1 q. 52

Glycerine—
Colombo, 2 c. £5
Bordeaux, 3 t. 10 71
Rotterdam, 9 18 300

Guano—
Jersey, 2 t. £17

Hydrochloric Acid—
Sao Paulo, 18 c. £14

Iron Oxide—
New York, 9 c. £8

Magnesia—
Bordeaux, 13 cks.
Genoa, 2 cs.
Paris, 124
Pt. Natal, 3 t. 3 c.
Rio de Janeiro, 5
Smyrna, 1 ck.
Vera Cruz, 5

Magnesium Chloride –
Bombay, 2 t. 1 c. £7
Rouen, 15 7 40

Manure—
St. Nazaire, 180 t. £720
Las Palmas, 29 232

Nitric Acid—
Sao Paulo, 1 t. 1 c. 3 q. £20

Oxalic Acid—
Boston, 6 t. 18 c. 3 q. £191

Paint—
Alexandria, 257 kgs.
Bahia, 5 cs.
Bordeaux, 13 cks.
B. Ayres, 63
Calcutta, 38
Cape Town, 8
Colombo, 6
Esquimalt, 10 dms.
Ferrol, 2
Galata, 200
Genoa, 41
Gibraltar, 134 pks.
Halifax, 10
Havre, 4
Loando, 50 kgs.
Maceio, 20
Madeira, 2 cs.
Manta, 12
M. Video, 8
Mossamedes, 4
Nagasaki, 360
Nassau, 71
Novo Rebdo, 101 pks.
Pernambuco, 75 kgs.
St. John's, Nfld., 95
Smyrna, 5 brls. 5
Trieste, 12

Painter's Colours—
Algoa Bay, 20 cs.
Calcutta, 4 cks.
Hong Hong, 257 pks
Karachi, 20 dms.
Lisbon, 194
M. Video, 132
Philadelphia, 2
Pernambuco, 15 kgs.
Rio G. Do Sul, 18
Rosario, 20 cks.
St. Catharine's, 10 cs.
San Domingo, 20 brls.
Santo, 12 kgs.
Smyrna, 3
Sydney, 140
Trinidad, 46

Paraffin Wax—
Genoa, 10 bgs.
Oporto, 2
Palermo, 5

Phosphorus –
Hiogo, 1 t. 15 c. £367
Shanghai, 1 6 210
Vera Cruz, 6 55

Potash—
Alexandria, 4 c. £6
B. Ayres, 1 t. 2 q. 19

Potassium Bichromate—
Montreal, 4 t. 15 c. £166
Vera Cruz, 1 1 2 q. 44

Potassium Carbonate—
Para, 7 t. 3 c. £10

Potassium Chlorate—
Copenhagen, 1 t. 10 c. £46
Gothenburg, 2 10 79
Gutujewski, 15 450
Hamburg, 3 18 114
Hiogo, 22 10 695
Konigsberg, 1 4 33
Montreal, 35 1,092
Newfairwater, 9 14
Paranagua, 2 10 75
Rio de Janeiro, 4 130
Sao Paulo, 3 90
Shanghai, 7 220
St. Petersburg, 20 550
Tampico, 1 10 30
Vera Cruz, 3 2 75
Yokohama, 6 5 198

Potassium Prussiate—
Alexandria, 2 c. £8

Potassium Salts—
Guayaquil, 9 t. 16 c. £900

Potassium Silicate—
Amsterdam, 1 t. 4 c. 2 q. £10

Salt—
Amsterdam, 110 t.
Antwerp, 177 12 c.
Baltimore, 230
Benin, { 500 bgs. 15 t.
Boston, 100
Burutu, 301
B. Ayres, 26
Calcutta, 3,361
Cameroons, 16 14
Copenhagen, 400
E. London, 93
Fredrickstadt, 300
Ghent, 25
Halifax, 230
Hamburg, 14 bgs.
Harlingen, 480 t.
Jamaica, 10
Matadi, 35
Melbourne, 138
M. Video, 5 200 cs.
Montreal, 488
N. Orleans, 500
Noqui, 20
Old Calabar, 20
Para, 3,200 sks.
Rangoon, 1,457
Rio Del Rey, 500 bgs.
Rotterdam, 230 t.
St. John's, N.B., 375
San Francisco, 50
Santos, 200 cs.
Sapeli 9 7 c.
Stockholm, 63 15
Sydney, 110
Vancouver, 95
Victoria, 51

Salt Cake—
Antwerp, 60 t. £63
Sundswall, 25 2 c. 32

Saltpetre—
Para, 1 t. 14 c. 1 q. £37
Toronto, 1 12 2 34

Sheep Dip—
Calcutta, 2 t. 14 c. 3 q. £63
Dunedin, 4 12 3 40
E. London, 100 dms. 125
Pt. Elizabeth, 4 t. 14 3 55
Rangoon, 1 14 2 22

Soap—
Algoa Bay, 100 cs.
Amsterdam, 200
Antwerp, 10 bxs.
Bakana, 300
Bleiron, 150
Bombay, 1,234
Calcutta, 10
Camercons, 50
C. C. Castle, 75
Cape Town, 1,549
Colombo, 5 cs. 18 pks.
Congo, 1
Constantinople, 130
Dominica, 100
Curacao, 100
Delagoa Bay, 250
Dunkirk, 50
E. London, 2,387 14
Gibraltar, 290
Gd. Lahou, 50
Grenada, 70
Hong Kong, 100 75
Kingston, 1,200
Lagos, 355
Madras, 45
Malta, 24
Manaos, 100
Melbourne, 42
M. Video, 1
Mossel Bay, 536
New York, 65 6 cks.
Opobo, 3,000
Ottawa, 730
Para, 100 bdls.
Paris, 50
Pt. Natal, 50
Rangoon, 750 15
Rotterdam, 100 400
St. John's, N'fd., 3
St. Thomas, 300
Santa Martha, 200
Sapeli, 100
Shanghai, 11,348
Sierra Leone, 100
Syra, 40
Teneriffe, 224
Trinidad, 800
Valparaiso, 3
Warri, 900

Soda—
Calcutta, 53 kgs.
Newcastle, 220 brls.
Stettin, 50

Soda Ash—
Boston, 26 tcs.
B. Ayres, 121 cks.
Calcutta, 100
Callao, 40
Copenhagen, 250 bgs.
Dunedin, 15
Genoa, 100
Georgetown, 246
Hamburg, 983 23
Jaffa, 25 brls.
Kingston, 8 kgs.
Konigsberg, 100 bgs.
Libau, 9
M. Video, 100 cs.
New York, 20 tcs. 9
Pernambuco, 30 brls.
Philadelphia, 132 tcs.
Rio de Janeiro, 40
San Salvador, 30
Santos, 18 2
Sao Paulo, 40
Savonerie, 8
Singapore, 10
Stettin, 100
Sydney, 165
Turin, 110
Venice, 200 37
Yokohama, 200

Soda Crystals—
Alexandria, 50 brls.
Bombay, 30 kgs.
Boston, 56
Quebec, 107
St. John's, N'fd., 5 cks.
Sao Paulo, 13
Stamboul, 200
Sydney, 20
Toronto, 150

Sodium Bicarbonate—
Adelaide, { 198 bgs. 260 kgs.
Alexandria, 10
Antwerp, { 10 bgs. 45 kgs. 10 cks.
Barcelona, 75
Brisbane, 220
Bremen, 50 pks.
Calcutta, 55
Canterbury, 50
Cape Town, 25
Colombo, 26
Dunedin, 50
Galatz, 55
Gijon, 14
Gutujewski, 500
Halifax, 50
Hong Kong, 24
Kingston, 47
Konigsberg, 100
Marseilles, 85
Melbourne, 1,382
Nantes, 45
Napier, 20
Naples, 30
Odessa, 260
Piræus, 30
Pt. Lyttelton, 90
Rotterdam, 149
Riga, 34 bgs. dms.
St. John's, N. B., 2 cks.
St. Petersburg, 300
Seville, 48 3
Shanghai, 20
Smyrna, 25
Sydney, 200
Syra, 3 cs.
Toronto, 10 bgs.
Valencia, 10
Vera Cruz, { 40 20 kgs.
Wellington, 120
Yokohama, 500
Zanzibar, 100

Sodium Bichromate—
Preston, Ont., 3 cks.

Sodium Carbonate—
New York, 40 cks.
Rotterdam, 50 brls.

Sodium Chlorate—
Gutujewski, 1,025 kgs.
Rotterdam, 20

Sodium Hyposulphite—
Piræus, 4 cks.
Toronto, 30 pks.

Sodium Naphthionate—
Milan, 2 cs.

Sodium Silicate—
Kingston, 10 brls.
Newcastle, 10

Sodium Sulphate—
Sao Paulo, 20 cks.

Sulphur—
Calcutta, 6 t.
Montreal, 252 4
Pt. Natal, 1 19
Rangoon, 1 10
Victoria, B. C., 1

Sulphuric Acid—
Sao Paulo, 1 t. 16 c. 39

Superphosphates—
Cullera, 100 t.
Honfleur, 354 11 c. 2 q.
Las Palmas, 10

Tartaric Acid –
Piræus, 1 brl.

Tin Crystals—
Sao Paulo, 10 t. 2 c.

Varnish—
Bombay, 30 dms.
Landana, 10 brls.
Madras, 2 cks.

White Lead—
Alexandria, 30 kgs.
Smyrna, 19 brls.

MANCHESTER

Week ending June 15th.

Albumen—
France, 4 cks.

Aniline Oil—
Belgium, 4 dms.

Aniline Salts—
Germany, 10 pns.

Beta Naphthol—
Belgium, 2 cks.

Bones—
Beauvais, 150 bgs.
Mera, 82
Treport, 570

Carbolic Acid—
Paris, 80 cks.

Castor Oil—
Holland, 3 cks.

Colours—
Belgium, 15 cks.
Germany, 2 cs.

Glue—
Germany, 10 cks.
Holland, 7

Glycerine—
Germany, 10 dms.

Manure—
Rotterdam, 4 cks.

Naphthylamine—
Switzerland, 14 cks.

Naphthol—
Germany, 38 cks.

Paint—
Copenhagen, 1 cs.
Pitch—
Belgium, 12,602 c.
Sodium Naphthionate—
Russia, 38 bgs.
Switzerland, 29 cks.
Toluol—
Germany, 20 dms.
Turpentine—
Germany, 2 dms.
Varnish—
Holland, 1 can

GLASGOW.

Week ending June 16th.

Alum—
Sydney, £22
Ammonium Sulphate—
Valencia, 611 t. 17 c.
Boracic Acid—
Melbourne, £189
Borax—
Hiogo, £58
Melbourne, £11 10s.
Rotterdam, £46
Carbolic Acid—
Rotterdam, £200
Caustic Soda—
Melbourne, 1 t. 11¼ c.
Montreal, 14 19
Chemicals (*otherwise undescribed*)
Rotterdam, £5 10s.
Citric Acid—
Christiania, £13 10s.
Coal Products—
Benzol
Rotterdam, £85
Creosote Oil
Christiania, £132 10s.
New York, £40
Pitch
Christiania, £35
Tar
Calcutta, £100
Canada, 50
Tar and Pitch
Canada, £195
Colours—
Hong Kong, 4 t. 3¼ c
Dyestuffs—
Extracts
Lisbon, £33 18s.
Malaunay, £69
Logwood
Lisbon, 3 t. 17½ c.
Dyestuffs (*otherwise undescribed*)
Lisbon, £77
Sydney, 29
Linseed Oil—
Brisbane, 1 t. ¾ c.
Colombo, 9 6¼
Manganese (Recovered)—
Rouen, £49
Paint—
Calcutta, £356
Canada, 75
Colombo, 58
Singapore, 28
Painters' Colours—
Cape Town, £49
Hobart, 63
Melbourne, 55
New York, 208
Rotterdam, 5
Sydney, 1,207
Tientsin, 73
Paraffin Wax—
Barcelona, £535
Bordeaux, 74
Cape Town, 36
Rotterdam, 7
Rouen, 56
Phosphorus—
Valencia, £90
Potassium Bichromate—
Antwerp, £176
Barcelona, 534
Rouen, 213
Santos, 140
Potassium Chlorate—
Sydney, £290
Potassium Cyanide—
Madras, £936
Melbourne, 480
Potassium Sulphate—
Sydney, £50

Sheep Dip—
B. Ayres, £70
Soap—
Singapore, 2 t. 2 c.
Sodium Arseniate—
Lisbon, 1 t. 17¼ c.
Sodium Bichromate—
Barcelona, 12 t. 13¼ c.
New York, 3 3½
Rouen, 16 1¼
Starch—
Barcelona, £49
Lisbon, 35
Rotterdam, 13
Varnish—
Huelva, £14
Melbourne, 73

HULL.

Week ending June 11th.

Alkali—
Reval, 55 cks.
Wyburg, 31
Ammonium Sulphate—
Rotterdam, 500 bgs.
Stettin, 500
Stockholm, 200
Bleaching Powder—
Danzig, 54 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 177 cks.
Antwerp, 1 cs.
Christiania, 1 4 2,135 slbs.
Copenhagen, 6
Danzig, 13 bgs.
Gothenburg, 26 cks.
Hamburg, 1 50
Helsingfors, 12
Raumo, 3
Reval, 1 pk
Riga, 51 13
Rotterdam, 27 60
Rouen, 20
St. Petersburg, 52 14
Stettin, 80 bgs. 42 1
Wasa, 1 ck.
Wyburg, 3
Cottonseed Oil—
Amsterdam, 449 c.
Antwerp, 589
Christiania, 17
Copenhagen, 35
Dunkirk, 101
Gothenburg, 200
Hamburg, 297
Harlingen, 20
Konigsberg, 100
Rotterdam, 588
Rouen, 337
Trieste, 200
Glue
Hamburg, 2 cs.
Stockholm, 3 cks.
Linseed Oil—
Amsterdam, 41 c.
Antwerp 100
Bordeaux, 35
Christiania, 74
Christiansand, 36
Copenhagen 77
Drontheim, 59
Hamburg, 54
Rouen, 137
Trieste, 34
Manure—
Dunkirk, 50 t.
Mineral White—
Antwerp, 200 bgs.
Harlingen, 200 sks.
Ochre—
Rotterdam, 5 cks.
Paint—
Alexandria, 1 cs.
Painters' Colours—
Amsterdam, 1 ck.
Antwerp, 73 dms.
Bari, 36
Bordeaux, 2
Christiansund, 76
Danzig, 130 1 cs.
Drontheim, 5
Dunkirk, 1
Gothenburg 1 188
Ghent, 6
Hamburg, 12
Helsingfors, 313 225
New York, 77
Norrkoping, 55
Rotterdam, 15 3
St. Petersburg, 53 2
Stettin, 5 1
Stockholm, 1
Trieste, 52
Uleaborg, 25
Wasa, 102 11 pks.
Wyburg, 153
Pitch—
Antwerp. 395 t.
Helsingfors, 50 cks. 5 cs.
Stavanger, 28 pks.
Rosin—
Abo, 10 cks.
Slag Meal—
Dunkirk, 1,722 bgs.
Soap—
Drontheim, 1 cs.
Rotterdam, 1 ck. 21
Starch—
Abo, 1 ck.
Tallow—
Hamburg, 94 cks. 60 cs.
Tar—
Amsterdam, 21 brls.
Antwerp, 6
Bremen, 4
Copenhagen, 10 cks.
Helsingfors, 100
Hamburg, 10
Rotterdam, 10
Wasa, 75
Varnish—
Antwerp, 2 cks. 5 cs.
Danzig, 3
Dunkirk, 1
Ghent, 1 1
Gothenburg, 1
Hamburg, 6
Helsingfors, 5
Reval, 4
Rotterdam, 1
Stettin, 13 8
Stockholm, 1
Uleaborg, 1
Waste Salt—
Amsterdam, 20 cks.

TYNE.

Week ending June 11th.

Alkali—
Gothenburg, 6 t. 17 c.
Rotterdam, 5 11
Ammonia—
Gothenburg, 2 t.
Ammonium Carbonite—
Hamburg, 16 c.
Ammonium Sulphate—
Dunkirk, 30 t.
Antimony—
Montreal, 8 t.
New York, 60
Rotterdam. 3
Barium Binoxide—
Hamburg. 5 t. 5 c.
Rotterdam, 9 16
Rouen, 10 13
Barytes Carbonate—
Copenhagen, 4 t.
Blanc Fixe—
Montreal, 17 t. 13 c.
Bleaching Powder—
Antwerp. 66 t. 14 c.
Christiania, 39 2
Copenhagen, 2
Gothenburg, 29 15
Hamburg, 16 1
New York, 12 9
Rotterdam, 5 19
Stockholm, 1 7
Castor Oil—
Montreal. 11 t. 16 c.
Calcium Chloride—
Copenhagen, 2 c.
Caustic Soda—
Christiania, 3 t.
Montreal, 48
New York, 25 2 c.
Rotterdam, 19
Stavanger, 1 14
Stockholm, 11 12
Chemicals (*otherwise undescribed*)
Genoa, 8 c.
Colours—
Genoa, 17 c.
Guano (Fish)—
Dunkirk, 50 t.
Hydrochloric Acid—
Ergasteria, 3 c.

Litharge—
Stockholm, 2 t. 17 c.
Magnesia—
Odense, 5 c.
Mercuric Oxide—
Genoa, 10 c.
Ochre—
Bergen, 2 t. 2 c.
Paint—
Gothenburg, 3 c.
Painters' Colours—
Montreal, 24 t. 2 c.
Soap—
Antwerp, 1 c.
Christiania, 1
Soda—
Christiania, 10 t. 2 c.
Randers, 20 2
Rotterdam, 20
Stockholm, 16 5
Uleaborg, 3 12
Soda Ash—
Rotterdam, 1 t. 8 c.
Sodium Hyposulphite—
Christiania, 19 c.
Sodium Silicate—
Gothenburg, 3 t. 8 c.
Rotterdam, 6
Sodium Sulphate—
Gothenburg, 275 t.
Sulphur—
Gothenburg, 150 t
Tallow—
Genoa, 10 t. 11 c.
Tar—
Montreal, 14 c.
Varnish—
Montreal, 2 t. 15 c.
White Lead—
Montreal, 61 t.
Rouen, 5 5 c.
Stockholm, 10 4
Zinc Ashes—
Rotterdam, 13 c.

GOOLE.

Week ending June 8th

Benzol—
Boulogne, 48 cks.
Caoutchouc—
Boulogne, 2 cks.
Chemicals (*otherwise undescribed*)
Amsterdam, 5 cks.
Ghent, 1 cs
Rotterdam, 10 dms.
Coal Products (*otherwise undes.*)—
Antwerp, 2 cs.
Boulogne, 52 cks. 10 cs.
Rotterdam, 114
Grease—
Boulogne, 3 cks.
Logwood—
Hamburg, 2 t.
Manure—
Antwerp, 366 bgs.
Ghent, 121
Painters' Colours—
Antwerp, 2 cks.
Boulogne, 3 3 cs.
Ghent. 1
Hamburg. 5
Rotterdam, 5 10 dms.
Pitch—
Antwerp, 831 t.
Size—
Amsterdam, 49 cks.

GRIMSBY.

Week ending June 11th.

Caoutchouc—
Gothenburg, 1 ck.
Helsingfors, 1 ble.
Chemicals (*otherwise undescribed*)
Dieppe. 10 kgs.
Rotterdam, 80 dms
Coal Products (*otherwise undes.*)—
Dieppe, { 26 cks. / 1 kg.
Hamburg, 23 btls.
Malmo, 80 tins
Painters' Colours—
Antwerp, 2 cks. 4 cs. 11 pks.
Hamburg, 35 75
Rotterdam, 1

PRICES CURRENT.

WEDNESDAY, June 22nd, 1898.

Prepared by Messrs. Higginbottom and Co., 116, Portland Street, Manchester.

The values stated are F.O.R. at maker's works, or at usual ports of shipment in U.K. The price in different localities may vary

		£	s.	d.
Acids:—				
Acetic, 25 °/₀ and 40 °/₀	per cwt.	6/-	&	8/6
„ Glacial	„		37/6	
Arsenic S.G., 2000°	„	1	4	0
Fluoric	per lb.	0	0	3¾
Muriatic (Tower Salts), 30° Tw.	per bottle	0	0	10
„ (Cylinder), 30° Tw.	„	0	3	0
Nitric 80° Tw.	per lb	0	0	1⅝
Nitrous	„	0	0	1¾
Oxalic	nett „	0	0	3¼
Phosphoric, 1750°	„	0	0	11¾
Picric	„	0	1	0
Sulphuric (fuming 50 °/₀)	per ton	15	10	0
„ (monohydrate)	„	5	10	0
„ (Pyrites, 168°)	„	3	0	0
„ „ 150°	„	1	5	0
„ (free from arsenic, 145°)	„	1	7	6
Sulphurous (solution) S.G. 1025	„	3	0	0
Tannic (pure)	per lb.	0	1	2½
Tartaric	„	0	1	1
Arsenic, white powdered	nett per ton	17	0	0
Alum (loose lump)	„	4	10	0
Alumina Sulphate (pure)	„	4	0	0
Aluminoferric	„	2	3	6
Aluminium (Ingot metal 98/99¾ %)	ne „	148	0	0
Ammonia, Anhydrous	per lb.	0	1	4
„ ·880=28° B.	„	0	0	2¼
„ =24° B.	„	0	0	1¾
„ Carbonate	nett „	0	0	3
„ Muriate	per ton	17	5	0
„ „ (sal-ammoniac) 1st & 2nd	per cwt.	35	&	33/-
„ Nitrate	per ton	31	0	0
„ Phosphate	per lb.	0	0	3
„ Sulphate (grey) London	per ton	9	2	6
„ „ (grey) Hull	„	9	2	6
Aniline Oil (pure)	per lb.	0	0	5¼
Aniline Salt „	„	0	0	4¾
Antimony	per ton	36	15	0
„ (tartar emetic)	per lb.	0	0	6¾
„ (golden sulphide)	„	0	0	9
Barium Chloride	per ton	6	17	6
„ Carbonate (native)	„	3	10	0
„ Sulphate (native levigated)	„	42/6	to	65/-
Bleaching Powder, 35 %	nett „	5	2	6
„ Liquor, 7 %	„	3	10	0
Bisulphide of Carbon	„	11	10	0
Chromium Acetate (crystal)	per lb.	0	0	5½
Calcium Chloride	per ton	2	7	6
China Clay (at Runcorn) in bulk	„	15/-	to	25/-
Coal Tar Products and Dyes:—				
Alizarine (artificial) 20 %	nett per lb.	0	0	6¾
Magenta	„	0	3	9
Anthracene, 30 % A, f.o.b. London	per unit per cwt.	0	0	5
Benzol, 90's	per gallon	0	0	10
„ 50/90 „	„	0	0	11
Carbolic Acid (crude 60°)	per gallon	0	2	0
„ (crystallised 40°)	per lb.	0	0	7
„ (liquid 95/97%	per gallon	0	0	11
Creosote (ordinary)	„	0	0	2½
„ (filtered for Lucigen light)	„	0	0	4
Crude Naphtha 30 % @ 120° C.	„	0	0	5½
Grease Oils, 22° Tw.	per ton	2	7	6
Pitch, f.o.b. Liverpool or Garston	„	1	0	0
Solvent Naphtha, 90 % at 160°	per gallon	0	1	2
Copper	per ton	49	15	0
„ Sulphate	„	15	15	0
„ Oxide (copper scales)	„	46	0	0
Glycerine (crude)	„	28	0	0
„ (distilled S.G. 1250°)	„	40	0	0
Iodine	nett, per oz.	0	0	7½
Iron Sulphate (copperas)	per ton	1	10	0
„ Sulphide (antimony slag)	„	2	0	0
Lead (sheet)	„	14	5	0
„ Litharge Flake (ex ship)	„	17	10	0
„ Acetate (white „)	„	26	0	0
„ „ brown „)	„	17	10	0
„ Carbonate (white lead) pure	„	17	0	0
„ Nitrate		20	0	0

		£	s.	d.
Lime, Acetate (brown) (ex ship)	per ton	5	7	6
„ „ (grey) (ex ship	„	7	5	0
Magnesium (ribbon and wire)	per oz.	0	2	3
„ Chloride (ex ship)	per ton	2	10	0
„ Carbonate	per cwt.	1	17	6
„ Calcined Magnesia	per ton.	8	0	0
„ Sulphate (Epsom Salts)	per ton	2	12	6
Manganese, Sulphate	„	17	15	0
„ Borate	per cwt.	2	5	0
„ Ore, 70 %	per ton	3	10	0
Methylated Spirit, 61° O.P.	per gallon	0	2	1
Naphtha (Wood), Solvent	„	0	2	7
„ „ Miscible, 60° O.P	„	0	4	0
Oils:—				
Cotton-seed	per ton	16	15	0
Linseed	„	18	5	0
Stearine	per ton	24	10	0
Phosphorus (yellow)	per lb.	0	1	11
„ (red)	„	0	2	8
Potassium Bichromate	nett per lb.	0	0	3¾
„ Carbonate, 90% (ex ship)	per ton	15	15	0
„ Chlorate	per lb.	0	0	3¾
„ Cyanide, 98%	„	0	1	3
„ Hydrate (Caustic Potash) 90 %	per ton	23	0	0
„ „ (Caustic Potash) 75/80 %	„	19	0	0
„ Potash Hydrate Liquid 50 %	„	11	0	0
„ Nitrate (refined)	per cwt.	1	1	0
„ Permanganate	per cwt.	3	2	6
„ Prussiate Yellow	per lb.	0	0	6½
„ Sulphate, 90 % (ex ship	per ton	9	15	0
„ Muriate, 80 % do.)	„	8	15	0
Silver (metal)	per oz.	0	2	3½
Sodium (metal)	per lb.	0	2	9
„ Carb. (refined Soda-ash) 48 %	nett per ton (f.o.r. w'ks.)	4	15	0
„ „ (Caustic Soda-ash) 48 %	„ „	4	5	0
„ „ (Carb. Soda-ash) 48%	„ „	4	0	0
„ „ (Alkali) 58 %	„ „	4	2	6
„ „ (Soda Crystals)	„ „	2	5	0
„ Acetate (ex-ship)	„	11	0	0
„ Arseniate, 45 %	„	13	0	0
„ Chlorate	per lb.	0	0	3½
„ Borate (Borax)	net, per ton.	12	10	0
„ Bichromate	„ per lb.	0	0	3
„ Hydrate (77 % Caustic Soda) (f.o.b.) net pr. ton (10 ton lots)		8	5	0
„ „ (74 % Caustic Soda)	„ „ „	8	0	0
„ „ (70 % Caustic Soda)	„ „ „	7	2	6
„ „ (60 % Caustic Soda)	„ „ „	6	2	6
„ „ (pure liquor 90° Tw.)	„ „ „	3	15	0
„ „ 77/78 % powdered (99 % hydrate)	„	12	0	0
„ Bicarbonate	„	6	10	0
„ Hyposulphite	„	5	5	0
„ Manganate, 25%	„	15	0	0
„ Nitrate (95 %) ex-ship Liverpool	per cwt.	0	7	7½
„ Nitrite, 98 %	per ton	25	10	0
„ Phosphate	„	9	10	0
„ Prussiate	per lb.	0	0	5¼
„ Silicate (glass)	per ton	4	10	0
„ „ (liquid, 100° Tw.)	„	3	7	6
„ Stannate, 40 %	per cwt.	3	2	9
„ Sulphate (Salt-cake)	per ton.	1	5	0
„ „ (Glauber's Salts)	„	1	7	6
„ Sulphide	„	6	15	0
„ Sulphite	„	5	0	0
Strontium Hydrate, 100%	„	10	15	0
Sulphocyanide Ammonium, 95 %	per lb.	0	0	5¾
„ Barium, 95 %	„	0	0	4
„ Potassium	„	0	0	6½
Sulphur (Flowers)	per ton.	7	7	6
(Roll Brimstone)	„	6	3	9
„ Brimstone: Best Quality	„	4	13	9
Superphosphate of Lime (26%)	„	2	10	0
Tallow	„	22	10	0
Tin Crystals	per lb.	0	0	5
„ English Ingots	per ton	72	5	0
Zinc (Spelter)	„	19	18	9
„ Chloride (solution, 100° Tw.)	„	6	0	0
„ Sulphate, Crystal	„	6	7	6

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PETER SPENCE & SONS,

Manchester Alum Works, **MANCHESTER.**

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PUREST SULPHATE OF ALUMINA.

FLUORIDE OF CHROME (Patented). **ANTIMONY SALTS.**

TARTAR EMETIC. HYPOSULPHITE OF SODA.

SUGAR OF LEAD, WHITE AND BROWN.

ZINC OXIDE, OXALIC, ACETIC, TANNIC, & SALICYLIC ACIDS, NITRATE & CHLORIDE OF BARIUM, &c.

SPECIALITIES:—

SODA ASH 58%, POTASHES, SALTCAKE, BLEACH, LITHIA SALTS, BORAX, MERCURIALS, SUL. COPPER, PRUSSIATES, CYANIDES, METALS, MINERALS, BRIMSTONE, SULPHUR

Phosphoric Acid, Acetates, Oxalic Acid, Tartaric Acid, Salicylic Acid, Carbolic Acid, Camphor, Stearine, Glycerine, OLEINE

Castor Oil, Olive Oil, Essent. Oils, Glucose, Grape Sugar, Cane Syrup, Treacle, Nitrate of Silver (Pure)

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IMPORTERS—Commission Merchants—EXPORTERS.

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Also OILS and PRODUCE.

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CORRESPONDENCE SOLICITED.

Tender.

THE Cleansing Committee of the Manchester Corporation are prepared to receive TENDERS for twelve months' supplies of—

Bran	Galvanized Stable Buckets
Lime and Lime Ashes	Galvanized Urine Guides
Saddlers' Ironmongery, &c.	Brown Oil of Vitriol
21 oz. Glass	Spirits of Salts
Lead: Sheet and Pipe	Caustic Bottoms
Iron Castings	Caustic Soda (98 per cent.)
Malleable Iron Castings	Chloride of Lime
Gun Metal do.	Resin
Phosphor Bronze do.	Creosote Oil
Iron and Steel (Bars and Sheets)	Pitch
	Mineral, Neatsfoot, Rape, and Paraffin Oils

Specifications may be obtained from Mr. R. D. Callison, Indoor and Estates Superintendent of the Cleansing Department, Town Hall, Manchester. Tenders must be sent in before 12 o'clock on Tuesday, the 11th January. The Committee do not bind themselves to accept the lowest or any Tender.

WM. HENRY TALBOT,
Town Clerk.

Miscellaneous.

☞ Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

1847.—W.—3971.

IN the High Court of Justice, Chancery Division.—Mr. Justice Stirling.—Between THOMAS GEORGE WEBB, Plaintiff, and LEVINSTEIN LIMITED, Defendants.—NOTICE is hereby given by THOMAS GEORGE WEBB, of Queen's Chambers, 7, Market-street, Manchester, to his Licensees, Customers, Manufacturers, and others, that the above Action has this day been commenced by him in the Chancery Division of the High Court of Justice against the above-named LEVINSTEIN LIMITED for an injunction to restrain the Defendants from continuing to threaten the Plaintiff or any other person or persons whereby the Plaintiff may be aggrieved by circulars advertisements, or otherwise with any legal proceedings or liability in respect of any alleged manufacture, use, sale, or purchase of any invention in infringement of the Defendants Patent rights (if any) and for damages for injury accrued to the Plaintiff in respect of the said threats.

All persons against whom similar threats have been uttered are requested to communicate with the said Thomas George Webb or his Solicitors.

RADFORD & FRANKLAND,
40, Chancery Lane, London, W.C.,
Solicitors for the Plaintiff.

Dated 3rd day of Dec., 1897.

1897. W. No. 3,562.

IN the High Court of Justice, Chancery Division.—Mr. Justice Romer.—Between THOMAS GEORGE WEBB, Plaintiff, and F. HALLAM & SON (LIMITED), Defendants.—NOTICE IS HEREBY GIVEN, that the above Action has been commenced by THOMAS GEORGE WEBB, of 7, Market-street, Manchester and is now pending against F. HALLAM & SON (LIMITED), of Dallow Chemical Works, Burton-on-Trent, claiming an INJUNCTION to Restrain the Infringement of the Plaintiff's Letters Patent, No. 2,743, of the year 1891; and that similar Proceedings will be instituted against all Persons manufacturing, Using, Selling or Purchasing Concentrated Sulphuric Acid made in infringement of the Plaintiff's Patent.—Dated this 4th day of November, 1897.

RADFORD & FRANKLAND,
40, Chancery Lane, London, W.C.,
Solicitors for the Plaintiff

CHEMIST and Perfumer Wanted; must thoroughly understand Perfuming of Toilet Soaps.—Address by letter only, to George Scott & Son, 67, Lord-street, Liverpool.

CHEMIST at liberty, owing to the Closing of the Clippens Oil Works, Loanhead. Knowledge of Metallurgy. First-class references.—Address T. Foulis, 21, Joliffe-street, Liverpool.

CHEMIST desires re-engagement; experienced Technical Analyst. Five years' experience in Laboratory and Works; excellent references.—Address, "P 19," *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

EXPORT—Energetic Young Gentleman, with several years' experience in foreign countries, and a thorough knowledge of four languages well acquainted with the trade, and at present staying with one of the largest London Chemical Export firms, is open for an engagement as Manager of the Export or Sale department Good business and organising abilities.—Address, "E 305," *Chemical Trade Journal* Office, Manchester.

EXPERIMENTAL Chemical Plant. Constructed Experiments carried out, Analyses made, and all descriptions of Plans, Estimates, &c., drawn up.—Terms on application to "Facilities," *Chemical Trade Journal* Office, Manchester.

ACETYLENE.—Patent for Sale.—WANTED to SELL, the BRITISH PATENT for the AUTOMATIC ACETYLENE GENERATOR of V. Daix, C.E., Knight of the Legion of Honour. The most perfect apparatus, having won the highest awards, viz., three diplomas of honour at Bourges, Vesoul, and Le Tréport exhibitions.—Address, SOCIETE D'ETUDE ET DE CONSTRUCTIONS D'USINES 72, Rue Louis Blanc, Paris.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS, and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Copper smiths, Bancroft Road, Mile End, London, E.

CARBONIC Acid Gas Compressing Tandem Engine, steam cylinder 9in., gas cylinder 13 or 15in., stroke 18in., disc crank fly wheel, slide valves, and appliances. Practically good as new.—For price, etc, apply to J. Light, Wolverhampton.

CARBIDE of CALCIUM and Patent Acetylene Gas Generator—Sold by Read, Holliday and Sons, Limited, Huddersfield.

CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No 5), by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas.—Apply, "C 310," *Chemical Trade Journal* Office, Manchester.

CHEMICAL EXHIBITION CASE —For Sale, a very handsome, large Case, in every respect as good as new.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FOR SALE, Five Tons of Phosphate of Potash, made by adding Phosphoric Acid to Pearl Ash, drying same slowly, and grinding into Powder. Contains 16 to 18 per cent. Potash and 30 to 35 per cent. Phosphoric Acid (P_2O_5.) Will sell cheap.—Apply, "P 302," *Chemical Trade Journal* Office, Manchester.

FOR SALE, large number of good Second-hand and New Wrought and Cast-Iron and Wood Tanks. All shapes and all sizes. Lists and prices on application. Enquiries solicited. Tanks of all kinds bought.—Apply, Thos. W. Ward, Fitzalan Chambers, Sheffield.

FOR SALE—The Illustrated Journal of Patents for 1895-6; 15s. per year.—Address inquiries to "P. J." *Chemical Trade Journal* Office, Manchester.

FOR SALE.—Askham Bros. and Wilson's SEPARATOR, as good as new.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FILTER PRESSES for SALE, Johnson's make, good condition. One Press, with 12 plates (iron), 18in. diameter, £12. One Press, with 12 plates (iron) 13½in. square, £9 10s.—R. W. Andrews and Co., 24, Gray's Inn-road, London, W.C.

FILTER PRESSES, in first-class condition, for Sale, with washing appliances, large sizes.—Address, "Filter Presses," *Chemical Trade Journal* Office, Manchester.

SULPHIDE OF IRON for Sale, very good quality. Inquiries solicited.—John Nicholson and Sons, Limited, Chemical Works, Hunslet, Leeds.

SULPHURIC ACID for SALE—R.O.V., D.O.V., and B.O.V., made from Sulphur.—Enquiries solicited.—John Nicholson & Sons, Limited *Leeds.*

J. STIFF & SONS,

MANUFACTURERS OF

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LAMBETH, LONDON, S.E.

GLUE.

Manufacturers of all kinds of **Fine, Scotch, Town, Medal,** and other **Glues, Gelatine, Size, Grease, Manure, Powdered Glues** in all qualities, **Starch, &c.**

APPLY

The GROVE CHEMICAL CO., Ld., Crown Works, APPLEY BRIDGE, WIGAN, LANCS.

Manlove, Alliott & Co. Ld.,

ENGINEERS,

NOTTINGHAM.

See Advertisement in first issue this month.

FULLER'S BONE STEAMER.

Softens the Bones without extracting any of the Nitrogenous Substance.

Extraction of the Grease within an hour.

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FOR EVERY DESCRIPTION OF MATERIAL.

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In any form Purchased for Cash.

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Send for Price List.

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ALBUMENS, Pastes, Arabic Solution, Vegetable and Animal Size, Gums, GLUES, PREPARED PITHS, Precipitated Bone Phosphate, Neatsfoot Oil, Greases, Manure Materials, &c.

W. KING, Benson St., LIVERPOOL.

TUBES

IRON and STEEL, and FITTINGS,

for Gas, Water, Steam, Liquid Ammonia and Hydraulic Work. **All kinds and sizes—Welded or Riveted.**

Tanks, Pans, and all kinds of Ironwork for Chemical Work.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER, Globe Tube Works, Wednesbury.

BRYAN CORCORAN, LTD.

MILLSTONE BUILDER,

WIRE WEAVER, MACHINE MANUFACTURER AND GENERAL MILL FURNISHER.

Sole Maker of MILBURN'S Patent Conoidal Stone Grinding Mills.

Especially suitable for certain materials, Wet or Dry.

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Manchester: Oldham Road, London: Wormwood Street E.C.

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ENGINEERS, PAGEFIELD IRONWORKS,

WIGAN.

WALKERS' PATENT

AIR COMPRESSING ENGINES.

GAS COMPRESSING ENGINES.

150,000 I.H.P. ALREADY AT WORK.

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Phosphoric Acid, Acetates, Oxalic Acid, Tartaric Acid, Salicylic Acid, Carbolic Acid, Camphor, Stearine, Glycerine, OLEINE

Castor Oil, Olive Oil, Essent. Oils, Glucose, Grape Sugar, Cane Syrup, Treacle, Nitrate of Silver (Pure)

Amidol, Metol, Glycin, Thiocarbamid and other Photographicals, Lumieres, Dry Plates, &c., &c.

IMPORTERS—Commission Merchants—EXPORTERS.

Telephone No. 1050.

FUERST BROS.,

LONDON: 17, Philpot Lane, E.C.

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Pharmaceutical Products,

Photographic Developers,

Drysalteries and Drugs,

Also OILS and PRODUCE.

SAMPLES AND PRICES ON APPLICATION.

CORRESPONDENCE SOLICITED.

Tenders.

WILLESDEN DISTRICT COUNCIL.

SUPPLY OF SULPHATE OF ALUMINA.

THE Willesden District Council are prepared to receive TENDERS for the Supply of SULPHATE of ALUMINA for the Treatment of Sewage in the Brent District for the year ending March 31st, 1899.

All particulars may be obtained on and after Monday, March 14th, 1898, upon application to Mr. O. CLAUDE ROBSON, M. Inst. C.E., Engineer to the Council, Public Offices, Dyne Road, Kilburn, N.W.

Tenders, endorsed "Sulphate of Alumina," to be delivered not later than 4 p.m. on Tuesday, March 22nd, 1898.

The Council do not bind themselves to accept the lowest or any Tender.

By order,

Public Offices, Dyne Rd., Kilburn, N.W. March 8th, 1898.

O. CLAUDE ROBSON, Engineer to the Council.

MIDDLETON CORPORATION.

THE Corporation of Middleton are prepared to receive Tenders for the SULPHURIC ACID and LIME required at their Gas Works during the ensuing 12 months.

Further particulars and Form of Tender may be obtained from Mr. T. Duxbury, Gas Manager.

Tenders, addressed to the Chairman of the Gas Committee, to be delivered at my office on or before Wednesday, the 17th March, 1898, endorsed "Tender for Acid" or "Lime," as the case may be. The Corporation do not bind themselves to accept the lowest or any Tender.

FREDERICK ENTWISTLE, Town Clerk.

Town Hall, Middleton, near Manchester, 2nd March, 1898.

MANCHESTER CORPORATION GASWORKS.

SPENT OXIDE.

THE Gas Committee of the Corporation of Manchester are prepared to receive TENDERS for the PURCHASE and REMOVAL of the SPENT OXIDE, to be produced at their Gaythorn, Rochdale Road, and Bradford Road Works respectively during a period of one year from the 31st March, 1898.

The Committee do not bind themselves to accept the highest or any Tender, and reserve the right to divide the Tenders as they may consider advisable.

Sealed Tenders, addressed to the Chairman of the Gas Committee and endorsed "Tender for Spent Oxide," must be delivered at the offices of the Gas Department, Town Hall, not later than 10 a.m. on Friday, the 18th instant.

Forms of Tender and further particulars may be obtained on application in writing to Mr. Charles Nickson, superintendent of the department.

By order of the Gas Committee,

WM. HENRY TALBOT, Town Clerk.

Town Hall, Manchester, 4th March, 1898.

Miscellaneous.

☞ Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

FOR SALE BY PRIVATE TREATY.

FOR SALE, as a going concern, the old established business of a manufacturing chemist, carried on at the Ardwick Chemical Works, Gorton Road, Ardwick, under the style or firm of "Robert Rumney," and at the Prussiate Works, Droylsden, under the style or firm of "Mellor & Pickles." Would entertain offer for the book debts, stock in trade, and goodwill, apart from the land, buildings, and plant.—Apply to Ashworth, Mosley & Co., 45, Spring Gardens, Manchester.

ACID WORKS.—Wanted position by qualified Practical Man, with 25 years' practice in process and construction of modern plant. Acquainted with all methods for concentrating Sulphuric Acid.—Address, "S," 96, Manchester-road, Little Hulton, near Bolton.

ASSISTANT CHEMIST (21), M.S.C.I., desires Re-engagement in Metallurgical or Chemical Works. Six years' extensive experience in Technical Analysis. Excellent references. Moderate salary.—Address, "P.W.E.," *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

CHEMIST Wanted for important Gas Works in the Argentine Republic Thorough knowledge of the Manufacture of Ammonia and Tar Products is essential. Salary, £400. Applications, stating age and experience, and accompanied by copies of not more than three recent testimonials, with the names and addresses of references, must be made by letter only not later than March 15th, to A. H. Preece, 39, Victoria-street, London, S.W.

EXPERIENCED MANAGER and CHEMIST is open for Engagement; special knowledge of white lead manufacture by old and new processes; exceptional references.—Apply, Box 25, *Daily Leader* Office, Newcastle-on-Tyne.

GENTLEMAN, of Chemical and Drug Trade, with perfect knowledge of French, German, and English, and German and English Shorthand and typewriting, seeks re-engagement as Confidential Clerk; would also travel periodically on the continent.—Address, "L 5 2," *Chemical Trade Journal* Office, Manchester.

MANAGER desires Engagement—Vitriol Rectified, Cylinder and Nitric Acids; Alkali, Bleach, Chlorate, Tin Crystals, Glauber Salts, Oleine Oils, Epsoms, etc.—Address, "W 595," *Chemical Trade Journal* Office Manchester.

PLUMBER Wanted for American Fertilizer Works. Must be competent lead burner, sober, industrious, of good health. Full particulars of past experiences, with salary required, to "Z," 59, Mark Lane, London, E.C.

TO ACID and ALKALI MAKERS. A Practical Man, with 30 years' continuous experience, and good references, can wait upon Manufacturers, with view to overhaul and repair Plant. Good draughtsman, and well up in Manufacturing. Terms by contract or by the week.—Address, "D.O.V.," 79, Peel-street, Broad-street, Pendleton, Salford.

WANTED, Second-hand Laboratory Fittings and Appliances for complete Laboratory. To be inspected before purchase. Near London.—Apply, "J 616," *Chemical Trade Journal* Office, Manchester.

YOUNG English Chemist, with practical experience, seeks Situation.—Address, "A D V.," *Chemical Trade Journal* Office, Manchester.

ACETINE, very good qualities. Send for prices and samples to "R.T. 1,707" c/o Haasenstein & Vogler A.G., Cologne-on-Rhine.

CRUDE NICOTINE Wanted.—Address letters to "S 611," *Chemical Trade Journal* Office, Manchester.

EUBOEAN MAGNESITE (Caustic)—Wanted regular deliveries, in lump Good price given. Cash payments.—Address, "H 600," *Chemical Trade Journal* Office, Manchester.

FOR SALE—Boilers, Steam, high class, Lancashire, all mounti gs. Two 28 x 7, for 85 lbs.; Two 29 x 7, Two 30 x 7, One 23 x 6-6 for 60 lbs. insurance.—For full details and price apply to J. Light, Wolverhampton.

NEW First-class VERTICAL Steel **BOILERS,** to work at 80 lb.: One 6ft. 6in. by 2ft. 9in., one 7ft. by 3ft., one 7ft 6in. by 3ft. 3in, one 8ft. 6in by 3ft. 6in., one 9ft. by 4ft, one 11ft. by 4ft.; with cross tubes, all fittings and mountings; certificate of test with invoice. T. and R LEES, Hollinwood.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS. and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Copper smiths, Bancroft Road, Mile End, London, E.

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J. STIFF & SONS,

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FULLER'S

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Softens the Bones without extracting any of the Nitrogenous Substance.

Extraction of the Grease within an hour.

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GRINDING MACHINERY

FOR EVERY DESCRIPTION OF MATERIAL.

W M. FULLER, Jun.,

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MANGANESE, Up to **95%**

FLUOR SPAR, finest 98/99 per cent white quality.

WILHELM MINNER, Arnstadt, Germany.

Manlove, Alliott & Co. Ld.,

ENGINEERS,

NOTTINGHAM.

See Advertisement in first issue of this month.

SAML. MEGGITT & SONS, LTD.,

Glue, Gelatine, & Size Manufacturers,

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ALBUMENS, Pastes, Arabic Solution, Vegetable and Animal Size, Gums, **GLUES, PREPARED PITHS,** Precipitated Bone Phosphate, Neatsfoot Oil, Greases, Manure Materials, &c.

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IRON and STEEL, and FITTINGS,

for Gas, Water, Steam, Liquid Ammonia and Hydraulic Work. **All kinds and sizes—Welded or Riveted.**

Tanks, Pans, and all kinds of Ironwork for Chemical Work.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER, Globe Tube Works, Wednesbury.

BRYAN CORCORAN, LTD.

MILLSTONE BUILDER.

WIRE WEAVER, MACHINE MANUFACTURER AND GENERAL MILL FURNISHER.

Sole Maker of MILBURN'S Patent Conoidal Stone Grinding Mills.

Especially suitable for certain materials, Wet or Dry.

Works and Warehouses:

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31, MARK LANE, LONDON.

Liverpool: Exchange Chambers. Glasgow: West Campbell-st.

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

Manchester: Oldham Road. London: Wenlock Street N.C.

Miscellaneous.—Cont.

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CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No 5), by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas.—Apply, "C 310," *Chemical Trade Journal* Office, Manchester.

CHEMICAL EXHIBITION CASE —For Sale, a very handsome, large Case, in every respect as good as new.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FOR SALE—Two Nitric Acid Stills, a number of Receivers, Dip Arms, Taper Pipes, Heads, etc., etc., all in good condition.—For particulars apply to "R 570," *Chemical Trade Journal* Office, Manchester.

FOR SALE.—New first-class railway cylindrical Tank Trucks, complying with Railway Companies' latest regulations. Tanks—namely, one 15ft long by 3ft. 2in. diameter; four, 15ft long by 5ft. 3in. diameter; two 15ft. 3in. long by 4ft. 1½in diameter. Immediate delivery.—For price, etc., apply to "G 511," *Chemical Trade Journal* Office, Manchester.

FOR SALE, large number of good Second-hand and New Wrought and Cast-Iron and Wood Tanks. All shapes and all sizes. Lists and prices on application. Enquiries solicited. Tanks of all kinds bought.—Apply, Thos. W. Ward, Fitzalan Chambers, Sheffiel

FOR SALE—The Illustrated Journal of Patents for 1895-6; 15s. per year.—Address inquiries to "P.J." *Chemical Trade Journal* Office, Manchester.

FOR SALE.—Askham Bros. and Wilson's SEPARATOR, as good as new.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FILTER PRESSES, in first-class condition, for Sale, with washing appliances, large sizes.—Address, "Filter Presses," *Chemical Trade Journal* Office, Manchester.

SULPHIDE OF IRON for Sale, very good quality. Inquiries solicited.—John Nicholson and Sons, Limited, Chemical Works, Hunslet, Leeds.

SULPHURIC ACID for SALE—R.O.V., D.O.V., and B.O.V., made from Sulphur.—Enquiries solicited.—John Nicholson & Sons, Limited Leeds.

WOODEN VESSELS of every description, New or Second-hand; all shapes, dimensions, and capacities. We have on hand the largest stock in England, and firms requiring anything in this direction are kindly invited to write for particulars, etc., to Henry Roberts & Co., Vat and Back Makers, Bancroft Road, London, E.

GAS TAR and AMMONIACAL LIQUOR Wanted.—Apply, Josiah Hardman, Milton, Staffs.

BLAYDON MANURE AND ALKALI COMP.'S

PURE WHITE SULPHATE OF ALUMI
BLANC FIXE, CHLORIDE, NITRATE,
AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

WALTHER FELD & CO.'S

PURE PRECIP. CARBONATE OF BARYTES 96

Also Hydrate and Anhydrous Alumina, Chloride and Carbonat Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-T

ALL SIZES OF CARBOYS KEPT & KINDS & HAMPERS IN STOCK.

Ground Stoppered Carboys Supplied.

Manlove, Alliott & Co.

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Glue, Gelatine, & Size Manufactu

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(Late BINDLEY & SON, Ltd., SMETHWI

MATT. H. TYACK,

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ALBUMENS, Pastes, Arabic Sol Vegetable and Animal Size, GLUES, PREPARED PITHS, P tated Bone Phosphate, Neatsfo Greases, Manure Materials.

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MILLSTONE BUI

WIRE WEAVER, MACHINE MA AND GENERAL MILL FUR Sole Maker of MILSU Patent Conoidal Stone Grin Especially suitable for materials, Wet or

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31, MARK LANE, LON

Liverpool: Exchange Chambers. Glasgow: West Campbell-st.

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

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WALKER BROS.,

ENGINEERS, PAGEFIELD IRONWORKS,

WIGAN.

WALKERS' PATENT

AIR COMPRESSING ENGINES.

GAS COMPRESSING ENGINES.

150,000 I.H.P. ALREADY AT WORK.

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SPENCE'S

High-Class SULPHATE of ALUMINA.

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Manchester Alum Works, MANCHESTER.

R. W. GREEFF & CO.,

20, EASTCHEAP, LONDON, E.C.

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PUREST SULPHATE OF ALUMINA.

FLUORIDE OF CHROME (Patented). ANTIMONY SALTS.

TARTAR EMETIC. HYPOSULPHITE OF SODA.

SUGAR OF LEAD, WHITE AND BROWN.

ZINC OXIDE, OXALIC, ACETIC, TANNIC, & SALICYLIC ACIDS, NITRATE & CHLORIDE OF BARIUM, &c.

SPECIALITIES:—

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Phosphoric Acid, Acetates, Oxalic Acid, Tartaric Acid, Salicylic Acid, Carbolic Acid, Camphor, Stearine, Glycerine, OLEINE

Castor Oil, Olive Oil, Essent. Oils, Glucose, Grape Sugar, Cane Syrup, Treacle, Nitrate of Silver (Pure)

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Also OILS and PRODUCE.

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CORRESPONDENCE SOLICITED.

Tender.

BOROUGH OF MACCLESFIELD.

THE Gas Committee are prepared to RECEIVE TENDERS for the PURCHASE of the SURPLUS TAR and AMMONIACAL LIQUOR made at their works during the twelve months commencing the 1st day of May next. Tenders for the tar or liquor separately to be sent in not later than Saturday, the 16th April, 1898, addressed to the Chairman of the Gas Committee, Town Hall, Macclesfield, and endorsed "Tender for Tar, &c.,"

For conditions apply to Mr. Newbigging, engineer, Gasworks, Macclesfield.

The Committee reserve to themselves the right of accepting any Tender for the Tar or Liquor separately.

The highest or any Tender not necessarily accepted.

W. Fredk. Taylor,
Town Clerk.

14th March, 1898.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

ASSISTANT CHEMIST (M.S.C.I.) desires Re-engagement in Metallurgical or Chemical Works. Six years' extensive experience in Technical Analysis. Excellent references. Moderate salary.—Address "P.W.E.," *Chemical Trade Journal* Office, Manchester.

CHEMIST, Ph.D., F.I.C., age 29, requires Situation. Has had thorough German University training, and subsequently several years' Technical and Analytical experience in Technical Laboratory in England. Competent and independent Analyst. Highest references.—Address, "Chemist," 280, High Holborn, London.

WANTED, a Chemist, age about 20/22 years, to take charge of a Works Laboratory; must have a general knowledge of Chemistry, and be able to analyse manures and raw materials used in their composition.—Apply, with references, to Dublin and Wicklow Manure Co., stating salary expected.

WANTED, a Cast Iron Still, to hold about 600 gallons, with flanged top and outlet pipe. State price, etc.—Apply to "B 696," *Chemical Trade Journal* Office, Manchester.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS, and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Coppersmiths, Bancroft Road, Mile End, London, E.

CARBIDE of CALCIUM and Patent Acetylene Gas Generator—Sold by Read, Holliday and Sons, Limited, Huddersfield.

CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No. 5), by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas.—Apply, "C 310," *Chemical Trade Journal* Office, Manchester.

CHEMICAL EXHIBITION CASE —For Sale, a very handsome, large Case, in every respect as good as new.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FOR SALE, a Mactear Furnace, in splendid condition. For particulars as to price, etc., apply to R. 642, *Chemical Trade Journal* Office, Manchester.

FOR SALE—Two Nitric Acid Stills, a number of Receivers, Dip Arms, Taper Pipes, Heads, etc., etc., all in good condition.—For particulars apply to "R 570," *Chemical Trade Journal* Office, Manchester.

FOR SALE.—New first-class railway cylindrical Tank Trucks, complying with Railway Companies' latest regulations. Tanks—namely, one 15ft. long by 3ft. 2in. diameter; four, 15ft. long by 5ft. 3in. diameter; two 15ft. 3in. long by 4ft. 1½in. diameter. Immediate delivery.—For price, etc., apply to "G 511," *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

FOR SALE, large number of good Second-hand and New Wrought and Cast-Iron and Wood Tanks. All shapes and all sizes. Lists and prices on application. Enquiries solicited. Tanks of all kinds bought.—Apply, Thos. W. Ward, Fitzalan Chambers, Sheffiel

FOR SALE—The Illustrated Journal of Patents for 1895-6; 15s. per year.—Address inquiries to "P.J." *Chemical Trade Journal* Office, Manchester.

FOR SALE.—Askham Bros. and Wilson's SEPARATOR.—Apply, "Exhibition," *Chemical Trade Journal* Office, Manchester.

FOR SALE, Cheap.—One Wrought Iron Tank, 35 ft. dia. by 14 ft. 6 in. deep, capacit 87,000 gallons.—Apply to Samuel While & Sons, 60, Queen Victoria-street, London, E.C

FILTER PRESSES for Sale.—Johnson's make; good condition. One Press, with 12 plates (iron), 15 in. dia., £12.; one Press, with 6 plates (iron), 18 in. dia., £9 15s.—Apply to R. W. Andrews & Co., 91, Gray's Inn-road, London, W.C.

FILTER PRESSES, in first-class condition, for Sale, with washing appliances, large sizes.—Address, "Filter Presses," *Chemical Trade Journal* Office, Manchester.

NEW First-class VERTICAL Steel **BOILERS,** to work at 80 lb.: One 6ft. 6in. by 2ft. 9in., one 7ft. by 3ft., one 7ft. 6in. by 3ft. 3in., one 8ft. 6in. by 3ft. 6in., one 9ft. by 4ft., one 11ft. by 4ft.; with cross tubes, all fittings and mountings; certificate of test with invoice. T. and R. LEES, Hollinwood.

SULPHIDE OF IRON for Sale, very good quality. Inquiries solicited.—John Nicholson and Sons, Limited, Chemical Works, Hunslet, Leeds.

SULPHURIC ACID for SALE—R.O.V., D.O.V., and B.O.V., made from Sulphur.—Enquiries solicited.—John Nicholson & Sons, Limited Leeds.

WOODEN VESSELS of every description, New or Second-hand; all shapes, dimensions, and capacities. We have on hand the largest stock in England, and firms requiring anything in this direction are kindly invited to write for particulars, etc., to Henry Roberts & Co., Vat and Back Makers, Bancroft Road, London

GAS TAR and AMMONIACAL LIQUOR Wanted.—Apply, Josiah Hardman, Milton, Staffs.

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See Advertisement in first issue of this month.

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Liverpool: Exchange Chambers. Glasgow: West Campbell-st.

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SAMPLES AND PRICES ON APPLICATION.

CORRESPONDENCE SOLICITED.

Tenders.

TAR AND AMMONIACAL LIQUOR.

THE Accrington District Gas and Water Board is prepared to RECEIVE TENDERS for the TAR and AMMONIACAL LIQUOR which may be produced at the Accrington and Great Harwood Works of the Board during the year from the 1st July inst. to the 30th June, 1899. Estimated total quantity of tar, 1,700 tons; liquor, 4,200 tons.

Tenders, endorsed "Tar and Ammoniacal Liquor," must be in my hands on or before Tuesday, the 10th May.

CHAS HARRISON, General Manager.

General Offices of the Board, Accrington, 16th April, 1898.

WAR DEPARTMENT CONTRACTS, WOOLWICH ARSENAL.

TENDERS are invited for the Purchase of SAWDUST CHARCOAL and FLAKE CHARCOAL, either separately or mixed together.

Full particulars and Forms of Tender may be obtained on application at the Building Works Department Office, Woolwich Arsenal, not later than Saturday, the 30th April, 1898.

M. T. SALE, Colonel, Supt. Building Works, Ordnance Factories.

Royal Arsenal, Woolwich, 16th April, 1898.

COUNTY BOROUGH OF BURY.

TO SULPHURIC ACID MAKERS.

THE Gas Committee of the Bury Corporation are prepared to receive tenders for the supply of about 300 tons of Sulphuric Acid for the manufacture of sulphate of ammonia, for a period of one year from the 1st day of May, 1898.

Form of tender and conditions may be obtained on application to the Engineer and Manager, Gas Works, Bury.

Sealed tenders endorsed "tender for acid" to be sent to me, the undersigned, on or before Monday, the 25th April, 1898.

JOHN HASLAM, Town Clerk.

Corporation Offices, Bury. 7th April, 1898.

Miscellaneous.

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PUBLIC SALE ON THE 10TH AND 11TH MAY OF A COAL-TAR DISTILLERY, SITUATED AT AMSTERDAM.

THESE Works are completely arranged for the distillation and working up from 10,000 to 15,000 Tons of Coal Tar and are capable of a further enlargement to 20,000 Tons a year.

They are situated on the Wetering Canal between the Amstel and the Y, and are accessible for ships and barges with a draught of about 8 feet.

The superficial area is about 15,000 square metres, very favourably situated within the limits of the Commune of Amsterdam.

For further information inquiries to be addressed to THE SOCIETY OF CHEMICAL INDUSTRY, Frederiksplein 5, AMSTERDAM.

During the year 1898 Contracts are open at different Gas Works in Holland for a quantity of about 16,000 Tons.

Creosote Oil for the preparation of timber, much employed in this country, is protected by an import duty of fl 5 per ton.

N.B.—About 9,000 additional square metres of land adjoining can also be purchased.

AGRICULTURAL ANALYST, thoroughly experienced in manure and food analysis, desires appointment with good firm.—Address "Fertilizer," *Chemical Trade Journal* Office, Manchester.

CHEMIST desires re-engagement in Works or private Laboratory. Very extensive experience in Technical Analysis. Highest references. Address, "P.W.E.," *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

TO ACID and ALKALI MAKERS. A Practical Man, with 30 years' continuous experience, with good references, can wait upon Manufacturers with view to overhaul and repair Plant. Good draughtsman, and well up in manufacturing Terms, contract or by the week.—Address "B.O.V." 96 Manchester-road, Little Hulton, near Bolton.

AMERICAN TRADE: DO YOU WANT IT? Albumen, Barytes, Ceresine, Bleach, Ozokerite, Woolgrease, Sal Ammoniac. &c. If so, kindly address, "New York Commission Broker," "Box P 730," *Chemical Trade Journal* Office, Manchester.

FOR SALE, a Dawson Gas Producer, 2 cwt. per hour coal, little used; also a Hydraulic Hand Press. For particulars apply to Reid, 1, St. Nicholas Buildings, Newcastle-on-Tyne.

PATENT for Sale or Disposal, of great utility for Oil and kindred trades.—Address, "S 726," *Chemical Trade Journal* Office, Manchester.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS. and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Copper smiths, Bancroft Road, Mile End, London, E.

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ANALYSES OF WATER,

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The Chemical Laboratory, 46, Boar Lane, LEEDS.

Manlove, Alliott & Co

ENGINEERS,

NOTTINGHA

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Softens the Bones without extracting any of the Nitrogenous Substance.

Extraction of the Grease within an hour.

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IRON and STEEL, and FITTINGS,

for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work. All kinds and sizes—Welded or Riveted.

Tanks, Pans, and all kinds of Ironwork for Chemical Work.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

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MILLSTONE BU

WIRE WEAVER, MACHINE MA AND GENERAL MILL FU

Sole Maker of MILS

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Especially suitable for materials, Wet or

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Amidol, Metol, Glycin, Thiocarbamid and other Photographicals, Lumieres, Dry Plates, &c., &c.

IMPORTERS—Commission Merchants—EXPORTERS.

Telephone No. 1050.

FUERST BROS.,

LONDON: 17, Philpot Lane, E.C.

Telegrams—"FUERST, LONDON."

HEADQUARTERS FOR ALL HEAVY OR FINE CHEMICALS,

Pharmaceutical Products,

Photographic Developers,

Drysalteries and Drugs,

Also OILS and PRODUCE.

CORRESPONDENCE SOLICITED.

SAMPLES AND PRICES ON APPLICATION.

Tenders.

MANCHESTER CORPORATION GAS WORKS.

AMMONIACAL LIQUOR.

THE Gas Committee of the Corporation of Manchester are prepared to receive TENDERS for the PURCHASE and REMOVAL of the AMMONIACAL LIQUOR to be produced at the Gaythorn, Rochdale Road, and Bradford Road Gas Works during a period of one or more years, commencing at noon on the 30th day of June, 1898.

The Committee do not bind themselves to accept the highest or any Tender.

Sealed Tenders, addressed to the Chairman of the Gas Committee, and endorsed "Tender for Ammoniacal Liquor," must be delivered at the Offices of the Gas Department, Town Hall, on or before Wednesday, the 25th day of May, 1898.

Forms of Tender and further particulars may be obtained on application (in writing only), to Mr. Charles Nickson, Superintendent of the Department. A deposit of one guinea (which will be returned on receipt of the Tender), must accompany each application for a Tender form.

By Order of the Gas Committee.

WM. HENRY TALBOT, Town Clerk.

Town Hall, Manchester, 29th April, 1898.

SCARBOROUGH GAS COMPANY.

TAR AND AMMONIACAL LIQUOR.

THE Directors of the Scarborough Gas Company invite TENDERS for the SURPLUS TAR and the whole of the Ammoniacal Liquor to be produced at their Works for one or more years from the 1st day of July next.

Tenders for Liquor may be submitted either at a fixed price per ton or on a sliding scale, regulated by the price of Sulphate. Preference will, however, be given to the latter.

Further particulars may be obtained on application to the undersigned, to whom sealed Tenders (duly endorsed) must be delivered not later than noon, on Saturday, the 11th June next.

The Directors do not bind themselves to accept the highest or any Tender

By Order of the Board,

(Signed) J. HOLLIDAY, Engineer and Secretary.

Gas Offices, 32, Westborough, Scarborough, May 18th, 1898.

Miscellaneous.

☞ **Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.**

CHEMIST (F.C.S.), desires Situation in Works, considerable practical experience in Acids, Alkalies, Manures, also Bleachers', Dyers', and Calico Printers' Chemicals. Highest references.—Address, "K. 757," *Chemical Trade Journal* Office, Manchester.

CHEMICAL Works Manager Wanted by a leading firm of Manufacturing Chemists in Lancashire, employing several hundred workpeople; must be well grounded in scientific knowledge, good practical experience in carrying out manufacitturing processes, also powers of organisation and administration, and thoroughly capable in the manufacture of Vitriol, Soda Ash, Caustic Soda, and decomposition of common salt. Replies will be treated in strictest confidence.—Address, "E 739," *Chemical Trade Journal* Office, Manchester.

DYEWORKS.—Advertiser (21), good Analyst, with Technical School experience in Dyeing, etc., desires position as Assistant or apprentice Dyer with good firm. References.—Address, "E 746," *Chemical Trade Journal* Office, Manchester.

TECHNICAL CHEMIST, age 30, with several years' experience, desires Situation as Manager or Chemist in Works, trained in Germany, holds Dr. Phil. and F.I.C. degrees; highest references; moderate salary.—Address, Chemist, 37, Little Queen-street, High Holborn, London.

WANTED, as Secretary to Managing Director of large Soap and Chemical Works, a Gentleman between 30 and 38 years of age, who has had practical experience in management of similar Works. He must be thoroughly accustomed to factory organisation, administration and control, have tact and judgment and engineering and chemical knowledge, and be prompt, systematic and methodical in habits. A high salary paid. Applications, stating age, qualifications, experience, and salary required, should be addressed, Directors, Lever Brothers, Limited, Port Sunlight, Cheshire.

Miscellaneous.—Cont.

YOUNG MAN requires Situation in Chemical Works. Thoroughly experienced in the Manufacture of Nitrate and Muriate of Ammonia, and Nitric and Hydrochloric Acid. Used to management of men. Good reference.—Address, "W.760," *Chemical Trade Journal* Office, Manchester.

AMERICAN TRADE: DO YOU WANT IT? Albumen, Barytes, Ceresine, Bleach, Ozokerite, Woolgrease, Sal Ammoniac, &c. If so, kindly address, "New York Commission Broker," "Box P 730, *Chemical Trade Journal* Office, Manchester.

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FOR SALE, recently started Soap Factory, in good country district, with access by rail, road, and river. Satisfactory reasons for disposal. Easy terms.—Apply, "Saponis," *Chemical Trade Journal* Office, Manchester.

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WANTED, Second-hand Black Ash Revolver, about 10 feet diameter, 18 feet long.—Apply to James Kay, 45, Oldfield-road, Salford.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS, and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Coppersmiths, Bancroft Road, Mile End, London, E.

CARBIDE of CALCIUM and Patent Acetylene Gas Generator—Sold by Read, Holliday and Sons, Limited, Huddersfield.

CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No. 5), by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas.—Apply, "C 310," *Chemical Trade Journal* Office, Manchester.

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IN VITRIFIED STONEWARE.
ACID PANS, ACID PIPES & CONNECTIONS, RECEIVERS, CONDENSING WORMS, RETORTS, COCKS, JARS, BOTTLES & INSULATORS, BATTERY JARS, POROUS CELLS, &c., &c.
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Softens the Bones without extracting any of the Nitrogenous Substance.

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of all kinds supplied by
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IRON and STEEL, and FITTINGS,
for Gas, Water, Steam, Liquid Ammonia and Hydraulic Work. All kinds and sizes—Welded or Riveted.
Tanks, Pans, and all kinds of Ironwork for Chemical Work.
COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.
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Especially suitable for certain materials, Wet or Dry.
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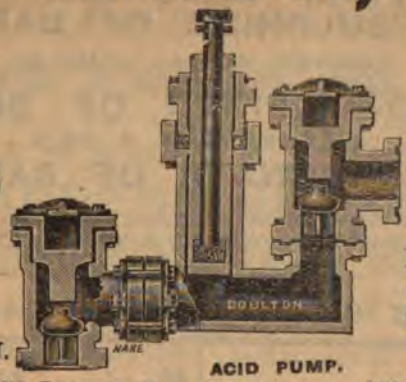

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Each Pump prior to leaving the Factory is put into actual work and tested.

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PETER SPENCE & SONS,
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Tenders.

ULVERSTON URBAN DISTRICT COUNCIL.

TO TAR DISTILLERS.

THE Gas and Water Committee invite Tenders for the Purchase of the SURPLUS TAR produced at their Works during the year, commencing 1st July next.

Further particulars and Forms of Tender may be had on application to the undersigned.

Sealed Tenders to be sent in not later than Thursday, the 2nd June, addressed to the Chairman of the Gas Committee, and endorsed "Tender for Tar." The Committee do not bind themselves to accept the highest or any Tender.

JNO. SWAN,
Engineer and Manager.

MANCHESTER CORPORATION GAS WORKS.

AMMONIACAL LIQUOR.

THE Gas Committee of the Corporation of Manchester are prepared to receive TENDERS for the PURCHASE and REMOVAL of the AMMONIACAL LIQUOR to be produced at the Gaythorn, Rochdale Road, and Bradford Road Gas Works during a period of one or more years, commencing at noon on the 30th day of June, 1898.

The Committee do not bind themselves to accept the highest or any Tender.

Sealed Tenders, addressed to the Chairman of the Gas Committee, and endorsed "Tender for Ammoniacal Liquor," must be delivered at the Offices of the Gas Department, Town Hall, on or before Wednesday, the 25th day of May, 1898.

Forms of Tender and further particulars may be obtained on application (in writing only), to Mr. Charles Nickson, Superintendent of the Department. A deposit of one guinea (which will be returned on receipt of the Tender) must accompany each application for a Tender form.

By Order of the Gas Committee.
WM. HENRY TALBOT,
Town Clerk

Town Hall, Manchester,
29th April, 1898.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

CHEMICAL PLUMBER, good, steady workman, wants a Situation.—Address, "T 757," *Chemical Trade Journal* Office, Manchester.

CHEMIST (F.C.S.), desires Situation in Works, considerable practical experience in Acids, Alkalies, Manures also Bleachers', Dyers', and Calico Printers' Chemicals. Highest references.—Address, "K. 757," *Chemical Trade Journal* Office, Manchester.

DYEWOOD and Tannin Extracts.—Technical Chemist, with many years' experience as Manager in this branch and in Technical Analysis, seeks engagement. Highest references.—Address, "Extracts 105," care of Rudolf Mosse, Hamburg.

GENTLEMAN, with Technical experience, offers his services for the Erection of Plant for the Manufacture of Sulphuric Acid Monohydrate.—Please address, "F. L. 1,328," care of Rudolf Mosse, Frankfort-on-the-Main.

SOAP and Candle Works.—Young energetic MANAGER is open for Engagement. Expert Chemist and Engineer. Capable of introducing several Specialities (in all departments), at present largely advertised. Thoroughly practical; good business and organising abilities; excellent references. Experienced in home and export trade. Chemical and Dynamite Glycerine.—Address, "Erasmic," *Chemical Trade Journal* Office Manchester.

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FOR SALE, Distilling Apparatus, complete (comprising case pan, condenser, reserve and cooler, 25 gallons capacity), boiling apparatus with coil; Earthenware Receivers, pipes, and coil (Doulton's); Cask of Saltpetre; Drying Pan, Stone Jars, Tubs, and Bottles. No reasonable offer refused.—Apply to the Pendleton Steam Laundry, Limited, Tanners' Lane, Pendleton, Manchester.

FILTER PRESSES for Sale.—Johnson's make; good condition. One Press, with 12 plates (iron), 15 in. dia., £12.; one Press, with 6 plates (iron), 18 in. dia., £9 15s.—Apply to R. W. Andrews & Co., 21, Gray's Inn-road, London, W.C.

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PURE WHITE SULPHATE OF ALUMINA, BLANC FIXE, CHLORIDE, NITRATE, AND SULPHIDE OF BARIUM.

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PURE PRECIP. CARBONATE OF BARYTES 96/98%

Also Hydrate and Anhydrous Alumina, Chloride and Carbonate of Alumina, Aluminate of Soda, Hydrate of Barium, &c.

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ALL SIZES OF CARBOYS KEPT & KINDS & HAMPERS IN STOCK.

Ground Stoppered Carboys Supplied.

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NOTTINGHAM.

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Glue, Gelatine, & Size Manufacturers,

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(Late BINDLEY & SON, Ltd., SMETHWICK.)

ANALYSES OF WATER,

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The Chemical Laboratory, 16, Boar Lane, LEEDS.

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WIRE WEAVER, MACHINE MANUFACTURER AND GENERAL MILL FURNISHER.

Sole Maker of MILBURN'S Patent Conoidal Stone Grinding Mills.

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SCARBOROUGH GAS COMPANY.

TAR AND AMMONIACAL LIQUOR.

THE Directors of the Scarborough Gas Company invite TENDERS for the SURPLUS TAR and the whole of the Ammoniacal Liquor to be produced at their Works for one or more years from the 1st day of July next.

Tenders for Liquor may be submitted either at a fixed price per ton or on a sliding scale, regulated by the price of Sulphate. Preference will, however, be given to the latter.

Further particulars may be obtained on application to the undersigned, to whom sealed Tenders (duly endorsed) must be delivered not later than noon, on Saturday, the 11th June next.

The Directors do not bind themselves to accept the highest or any Tender.

By Order of the Board,
(Signed) J. HOLLIDAY,
Engineer and Secretary.

Gas Offices,
32, Westborough,
Scarborough, May 18th, 1898.

Miscellaneous.

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MILNSBRIDGE CHEMICAL CO. Huddersfield – Sulphuric Acid for Sale, B.O.V. and R.O.V., B.O.V. Open for best offers.

GENTLEMAN, with Technical experience, offers his services for the Erection of Plant for the Manufacture of Sulphuric Acid Monohydrate – Please address, "F. L. 1,328," care of Rudolf Mosse, Frankfort-on-the-Main.

HAMBURG Technical Chemist, with many years' experience and best connections, desires Agency or Representation in Chemicals, Drugs, Dyestuffs, Tannins, Colours, etc. Highest references.—Address, "Representation," *Chemical Trade Journal* Office, Manchester.

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WANTED, an energetic Man, thoroughly experienced in the manufacture of Mono and Binitro Toluol.—State salary and experience to "L. 770," *Chemical Trade Journal* Office, Manchester.

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FILTER PRESSES, in first-class condition, for Sale, with washing appliances, large sizes.—Address, "Filter Presses," *Chemical Trade Journal* Office, Manchester.

NEW First class VERTICAL Steel BOILERS, to work at 60lb.: One 6ft 6in by 6ft. 6in., one 7ft by 6ft., one 7ft 6in. by 6ft. 6in., one 6ft. 6in by 3ft. 6in., one 6ft. by 4ft., one 6ft. by 4ft.; with cross tubes, all fittings and mountings; certificate of 1898 with 1 voice. T. and R. LEES, Hollinwood.

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Sole Maker of MILBURN'S Patent Conoidal Stone Grinding Mills.

Especially suitable for certain materials, Wet or Dry.

Works and Warehouses: Back Church Lane. *Parcel Dept.:* Basement of the Corn Exchange

31, MARK LANE, LONDON.

Liverpool: Exchange Chambers, Glasgow: West Campbell-st.

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

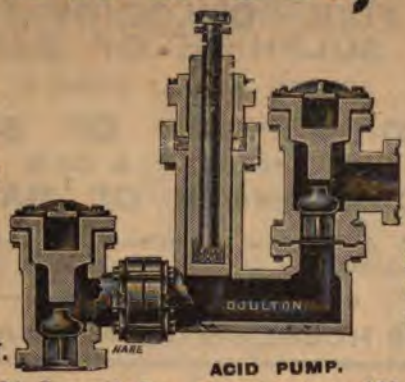
SHERDLEY GLASSWORKS, ST. HELENS.

Manchester: Oldham road, Victoria Street, N.E.

DOULTON & CO., LAMBETH, LONDON,

MANUFACTURERS OF
STONEWARE
CHEMICAL
APPARATUS
OF
EVERY DESCRIPTION.

PRICE LISTS
APPLICATION.



ACID PUMP.

IMPROVED
STONEWARE
ACID PUMPS.

Each Pump prior to leaving the Factory is put into actual work and tested.

SHOWROOMS: St. James's Sq., Manchester; 100, Soho St., Liverpool. Granville St., Birmingham; 38 and 40, Bothwell St., Glasgow; 6, Rue de Paradis, Paris.

SPENCE'S
High-Class SULPHATE of ALUMINA.

PETER SPENCE & SONS,
Manchester Alum Works, MANCHESTER.

VALUATIONS.

Messrs. W. J. FRASER and CO., Engineers, 98, Commercial Road East, London, undertake Valuations of and Reports on Engineering Plant and Machinery for Company Formation, Partnership, Fire Assessment, Probate and other purposes. Drawings and Specifications prepared for New Engineering Plant on fixed charges.

Telephone No. 4413. Telegraph: "FRASER, ENGINEER, LONDON."

CHEMICALS, Pure and Commercial,
For Scientific and Technical Purposes.
Specialities: Ethers, Chloroform.
GLASE & CO. Tyne Vale Chemical Works, Skinnerburn-rd., Newcastle-on-Tyne

MANGANESE, Up to 95%
FLUOR SPAR, finest 98/99 per cent white quality.
WILHELM MINNER, Arnstadt, Germany.

TELEGRAMS: "Neill," St. Helens. TELEPHONE: No. 20, St. Helens.

CHEMICAL PLANT.
W. NEILL & SON.
SPECIALITIES:

WALL ENGINES — High or Low Speed.
DRIVING ENGS. — All high efficiency.
GRINDING MLS. — For all purposes.
FILTER PRESSES — Castings, Burner Fronts, etc.
BLOWING ENGS — PUMPS — AIR COMPRESSRS. — Vertical and Horizontal of every description, with Improved Valves.

GLYCERINE PLANTS.
St. Helens Junc., Lancs.

SOAP MACHINERY.

Iron Metal and Brass Work. Tanks and Wrot. Ironwork

Tenders.

TO MANUFACTURING CHEMISTS & OTHERS.

THE London County Council is prepared to receive TENDERS for the supply of 5 550 Tons of PROTO-SULPHATE OF IRON (Commercial Green Vitriol) to the Barking Outfall Works, near Beckton, North Woolwich, and the Crossness Outfall Works, near Erith, Kent.

Persons desiring to submit Tenders may obtain the Specifications, Form of Tender, and other particulars at the Engineer's Department, County Hall, Spring Gardens, S.W.

Tenders must be upon the official forms and the printed instructions contained therein must be strictly complied with. The Contractors will be required to pay to all workmen employed by them such wages, and to observe such hours of labour as are generally accepted as fair in the trade.

Tenders are to be delivered at the County Hall in a sealed cover addressed to the Clerk of the London County Council, and marked "Tender for Proto-Sulphate of Iron, Barking and Crossness Outfalls." No Tender will be received after 10 a.m. on Tuesday, the 21st June, 1898. Any Tender which does not comply with the printed instructions for Tender may be rejected.

The Council does not bind itself to accept the lowest or any Tender, and it will not accept the Tender of any person or firm who shall on any previous occasion have withdrawn a Tender after the same has been opened unless the reasons for the withdrawal were satisfactory to the Council.

C. J. STEWART,
Clerk of the Council.

Spring Gardens, S.W.,
24th May, 1898.

TO LIME MERCHANTS AND OTHERS.

THE London County Council is prepared to receive TENDERS for the supply of 23,800 Tons of LIME to the Barking Outfall Works, near Beckton, North Woolwich, and the Crossness Outfall Works, near Erith, Kent.

Persons desiring to submit Tenders may obtain the Specifications, Form of Tender, and other particulars at the Engineer's Department, County Hall, Spring Gardens, S.W.

Tenders must be upon the official forms, and the printed instructions contained therein must be strictly complied with. The Contractors will be required to pay to all workmen employed by them such wages, and to observe such hours of labour as are generally accepted as fair in the trade.

Tenders are to be delivered at the County Hall, in a sealed cover addressed to the Clerk of the London County Council, and marked "Tender for Lime, Barking and Crossness Outfalls." No Tender will be received after 10 a.m. on Tuesday, the 21st June, 1898. Any Tender which does not comply with the printed instructions for Tender may be rejected.

The Council does not bind itself to accept the lowest or any Tender, and it will not accept the Tender of any person or firm who shall on any previous occasion have withdrawn a Tender after the same has been opened unless the reasons for the withdrawal were satisfactory to the Council.

C. J. STEWART,
Clerk of the Council.

Spring Gardens, S.W.,
24th May, 1898.

SCARBOROUGH GAS COMPANY.

TAR AND AMMONIACAL LIQUOR.

THE Directors of the Scarborough Gas Company invite TENDERS for the SURPLUS TAR and the whole of the Ammoniacal Liquor to be produced at their Works for one or more years from the 1st day of July next.

Tenders for Liquor may be submitted either at a fixed price per ton or on a sliding scale, regulated by the price of Sulphate. Preference will, however, be given to the latter.

Further particulars may be obtained on application to the undersigned, to whom sealed Tenders (duly endorsed) must be delivered not later than noon, on Saturday, the 11th June next.

The Directors do not bind themselves to accept the highest or any Tender.

By Order of the Board,
(Signed) J. HOLLIDAY,
Engineer and Secretary.

Gas Offices,
32, Westborough,
Scarborough, May 18th, 1898.

Miscellaneous.

Replies to Advertisements addressed to the "Chemical Trade Journal" Office are forwarded to Advertisers, post free.

SULPHURIC ACID for SALE—B.O.V., D.O.V., R.O.V., all free from Arsenic. Open for offers for B.O.V.—MILNSBRIDGE CHEMICAL CO., HUDDERSFIELD.

FOR SALE, 5 tons Phosphate of Potash, made by adding Phosphoric Acid to Pearl Ash, drying same slowly and grinding into powder. Contains 16 to 18 per cent. Potash and 30 to 35 per cent. Phosphoric Acid (P_2O_5). Will sell cheap.—Apply, "P.H. 575, *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

ANILINE DYES.—Gentleman with good connections wishes to represent first-class English Manufacturer for Lille (France), and district—Address, Flip, Representant, Tourcoing (Nord), France.

LIVER of SULPHUR (Potass).—Wanted Makers to quote for this in 1 ton and 5 ton lots for cash.—Address "Sulphur," care of Deacon's, Advertising Offices, Leadenhall-street, London.

TO WHOLESALE MANUFACTURING CHEMISTS AND DRUGGISTS.—A Belgian Gentleman having extensive experience and business connections in the Drug and Chemical trade in Belgium, desires consignments, or to represent English Manufacturers or Importers in that country. Highest references given and required.—Address, Belgique, care of Deacon's, Leadenhall-street, London.

INFORMATION required on the Oxide of Iron Process, or offer for the supply of Mechanism for the Manufacture of Caustic Soda in Germany.—Apply to "R.R. 99," care of Deacon's, Leadenhall-street, London, E.C.

WANTED, Second-hand Iron DRUMS, 5 to 10 cwt. capacity, in good condition. Apply, Jos. Crosfield & Sons, Ltd., Warrington.

GENTLEMAN, with Technical experience, offers his services for the Erection of Plant for the Manufacture of Sulphuric Acid Monohydrate.—Please address, "F. L. 1,328," care of Rudolf Mosse, Frankfort-on-the-Main.

SOAP and Candle Works.—Young energetic MANAGER is open for Engagement. Expert Chemist and Engineer. Capable of introducing several Specialities (in all departments), at present largely advertised. Thoroughly practical; good business and organising abilities; excellent references. Experienced in home and export trade. Chemical and Dynamite Glycerine.—Address, "Erasmic," *Chemical Trade Journal* Office Manchester.

CHEMIST desires Situation in Works Laboratory. First-class references. Experience in Mineral Oil and White Lead Works.—Box 72, *Chemical Trade Journal* Office, Manchester.

AMERICAN TRADE: DO YOU WANT IT? Albumen, Barytes, Ceresine, Bleach, Ozokerite, Woolgrease, Sal Ammoniac, &c. If so, kindly address, "New York Commission Broker," "Box P 730," *Chemical Trade Journal* Office, Manchester.

FILTER PRESSES for Sale.—Johnson's make; good condition. One Press, with 12 plates (iron), 15 in. dia., £12.; one Press, with 6 plates (iron), 18 in. dia., £9. 15s.—Apply to R. W. Andrews & Co., 24, Gray's Inn-road, London, W.C.

FILTER CLOTHS.—Cotton and Flannel Felt made up, all sizes and shapes to order. One gallon Filter sent post free 3/6.—Apply to R. W. Andrews & Co., 24, Gray's Inn-road, London, W.C.

HYDRO-EXTRACTORS (10) for SALE, 30in. diam. Over driven, friction drive, new baskets, in thorough repair, photos, each £20.—Blake Barclay & Co., Engineers, Greenock.

VACUUM PAN for SALE, 2ft. diam., of cast-iron, with 4—1½in. copper coils, all mountings complete, first-class design and finish; only worked a few times; photos; cost £100, for £40.—Blake, Barclay & Co., Engineers, Greenock.

BOILERS, ENGINES, PUMPS, Cast and Wrought-iron TANKS, VACUUM and STEAM PANS, and every description of Second-hand PLANT and MACHINERY. Catalogues sent free on application.—Henry Roberts & Co., Engineers and Coppersmiths, Bancroft Road, Mile End, London, E.

CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No. 5), by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas.—Apply, "C 310," *Chemical Trade Journal* Office, Manchester.

BLAYDON MANURE AND ALKALI COMP.'S

PURE WHITE SULPHATE OF ALUMI
BLANC FIXE, CHLORIDE, NITRATE,
AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

WALTHER FELD & CO.'S

PURE PRECIP. CARBONATE OF BARYTES 9

Also Hydrate and Anhydrous Alumina, Chloride and Carbona
Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-T

ALL SIZES OF CARBOYS KEPT

& KINDS & HAMPERS IN STOCK.

Ground Stoppered Carboys Supplied.

GLUE.

Manufacturers of all kinds of **Fine, Scotch, Town, Medal,** and other **Glues, Gelatine, Size, Grease, Manure, Powdered Glues** in all qualities, **Starch, &c.**

APPLY
The GROVE CHEMICAL CO., Ld., Crown Works,
APPLEY BRIDGE, WIGAN, LANCS.

Manlove, Alliott & Co

ENGINEERS,

NOTTINGHAM

See Advertisement in first i this month.

SAML. MEGGITT & SONS,

Glue, Gelatine, & Size Manufact

SUTTON-IN-ASHFIELD, N

(Late BINDLEY & SON, Ltd., SMETHW

ALBUMENS, Pastes, Arabic S
Vegetable and Animal Size,
GLUES, PREPARED PITHS,
tated Bone Phosphate, Neatsf
Greases, Manure Materials

W. KING, Benson St., LIVE

TUBES

IRON and STEEL, and FITTINGS,

for Gas, Water, Steam, Liquid Ammonia, and Hydraulic Work. **At kinds and sizes—Welded or Riveted.**

Tanks, Pans, and all kinds of Ironwork for Chemical Work.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER, Globe Tube Works, Wednesbury.

BRYAN CORCORAN
MILLSTONE BU
WIRE WEAVER, MACHINE MA
AND GENERAL MILL FU
Sole Maker of MILS
Patent Conoidal Stone Gri
Especially suitable for
materials, Wet or
Works and Warehou
Back Church Lane. *Parcel Dept.:* Basem
Corn Exchange
31, MARK LANE, LON

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

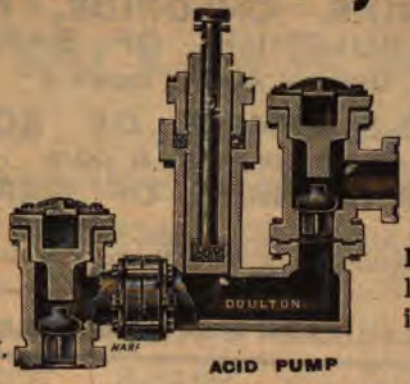
SHERDLEY GLASSWORKS, ST. HELENS

Liverpool: Exchange Chambers. Glasgow: West Campbell-st.

OULTON & CO., LAMBETH, LONDON,

ANUFACTURERS OF
TONEWARE
HEMICAL
PARATUS
OF
RY DESCRIPTION.

RICE LISTS
APPLICATION.



ACID PUMP

IMPROVED STONEWARE ACID PUMPS.

Each Pump prior to leaving the Factory is put into actual work and tested.

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Manchester Alum Works, MANCHESTER.

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Telephone No. 4413. Telegraph: "FRASER, ENGINEER, LONDON."

MICALS, Pure and Commercial,
For Scientific and Technical Purposes.
cialities: Ethers, Chloroform.
LASE & CO. Tyne Vale Chemical Works, Skinnerburn-rd., Newcastle-on-Tyne

MANGANESE, Up to 95%
FLUOR SPAR, finest 98/99 per cent white quality.
WILHELM MINNER, Arnstadt, Germany.

EGRAMS: ll," St. Helens. TELEPHONE: No. 20, St. Helens.

CHEMICAL PLANT.

W. NEILL & SON.
SPECIALITIES:

WALL ENGINES — High or Low Speed.
DRIVING ENGS.
GRINDING MLS. — For all purposes. All high efficiency.
FILTER PRESSES — Castings. Burner Fronts, etc.
BLOWING ENGS
PUMPS — Vertical and Horizontal of every description, with Improved Valves.
AIR COMPRESSRS.

GLYCERINE PLANTS.

SOAP MACHINERY.

St. Helens Junc., Lancs.

Metal nd Work. Tanks and Wrot. Ironwork.

Tenders.

READING GAS COMPANY.

TAR.

THE Directors of the Reading Gas Company invite TENDERS for the Purchase of their Surplus TAR for one year, commencing on he 1st July next.

Specifications for the contract will be forwarded on application.

Rail communication direct to the Works.

Tenders, endorsed "Tender for Tar," must be delivered not later than Monday, the 13th of June, to

ARTHUR H. CANE,
7, King-street, Reading, Secretary.
June 2nd, 1898.

BOROUGH OF BURTON-UPON-TRENT.

TAR.

THE Mayor, Aldermen, and Burgesses of the Borough of Burton-upon-Trent, acting by the Council, invite TENDERS for the Purchase of the Surplus TAR to be produced at their Works during Twelve Months from the end of July next.

Probable quantity of Coal carbonized during the Twelve Months, 30,000 Tons.

The Tar will be delivered free into Contractor's Tank-Trucks, on the Gas Works Railway Siding.

Payments: Net Cash Monthly.

Tenders, sealed, and endorsed "Tender for Tar," are to be delivered to me at or before Ten a.m., on Thursday, 30th June inst.

The highest or any Tender will not necessarily be accepted.

F. L. RAMSDEN,
Manager and Engineer.
Gas and Electric Light Works,
Burton-upon-Trent, June 2nd, 1898.

LEEK URBAN DISTRICT COUNCIL.

TO TAR DISTILLERS AND OTHERS.

TENDERS are invited for the Purchase of the Surplus TAR produced at the Leek Gas Works, for one, two, or three years, from the 1st July, 1898, at per ton of 2,240 lbs. at such Works.

Further particulars and forms of Tender may be obtained from the undersigned.

Sealed and endorsed Tenders addressed to the Chairman of the Gas Committee, to be delivered at the Town Hall, Leek, not later than Saturday, the 18th June instant.

The highest or any Tender will not necessarily be accepted.

By Order,
Town Hall, Leek, C. HENSHAW,
4th June, 1898 Clerk.

Miscellaneous.

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SULPHURIC ACID for SALE—B.O.V., D.O.V., R.O.V., free from Arsenic. Open to buy S'Oxide.—MILNSBRIDGE CHEMICAL CO., HUDDERSFIELD.

TO SPIRIT DISTILLERS, BREWERS, MANUFACTURING CHEMISTS, and OTHERS.

MESSRS. FULLER, HORSEY, SONS, & CASSELL are instructed to SELL BY AUCTION, in Lots, at the Distillery, 159, Blackfriars-road, S.E., on Tuesday, June 14th, 1898, at 12 o'clock precisely,

DISTILLING PLANT and MACHINERY, including a 585-gallon copper rectifying still, one 1,623 and one 995 gallon copper pot stills, three copper worms two circular cast-iron worm tubs, two copper spirit safes copper piping and gun-metal cocks, copper boiling pan, set of three-throw gun-metal pumps, three lift and force pumps, Cornish and vertical boilers, table engine, iron steam and water piping, 75 oak spirit vats and casks, copper measures, cranes and utensils, two useful horses, four pair and single horse vans, harness, stable utensils, office furniture, and other effects. May be viewed the day preceding, and catalogues had on the premises, and of the Auctioneers, 11, Billiter-square, E.C.

FOR SALE, 5 tons Phosphate of Potash, made by adding Phosphoric Acid to Pearl Ash, drying same slowly and grinding into powder. Contains 16 to 18 per cent. Potash and 30 to 35 per cent. Phosphoric Acid (P_2O_5). Will sell cheap.—Apply, "P.H. 575, *Chemical Trade Journal* Office, Manchester.

Miscellaneous.—Cont.

CHEMIST or Assistant Manager desires Re engagement. Extensive experience in Benzole Carbolic, Anthracene, Ammonia and all Tar Products Analysis, Sheep Dip, etc Bichromates of Soda and Potash, Sulphuric, Nitric and Hydrochloric Acids, Superphosphates and Mixed Manures, Manufacture and Analysis Bleaching Powder. Capable of undertaking charge of Bleach Chambers, etc. Reasonable salary. Highest references.—Address, "Alpha," *Chemical Trade Journal* Office, Manchester.

QUANTITY of Sulphate of Potash for Sale, testing about 40 per cent.—W. M. Fuller, Jun., 88, Gt. Charles-street, Birmingham.

ADVERTISER having had experience in the extraction of Metals from their Sulphide Ores, seeks similar Situation as Assistant Chemist.—Address, "Sulphide," *Chemical Trade Journal* Office, Manchester.

PERMANENCY, with good prospects, required by Gentleman, as Chemist Assistant in Metallurgical or other Works. Has had experience in the management and working of processes by Electrolysis. Moderate salary.—Address, "X L.," *Chemical Trade Journal* Office, Manchester.

WANTED, Second-hand Iron DRUMS, 5 to 10 cwt. capacity, in good condition. Apply, Jos. Crosfield & Sons, Ltd, Warrington.

GENTLEMAN, with Technical experience, offers his services for the Erection of Plant for the Manufacture of Sulphuric Acid Monohydrate – Please address, "F. L. 1,328," care of Rudolf Mosse, Frankfort-on the-Main.

SOAP and Candle Works.—Young energetic MANAGER is open for Engagement. Expert Chemist and Engineer. Capable of introducing several Specialities (in all departments), at present largely advertised. Thoroughly practical; good business and organising abilities; excellent references. Experienced in home and export trade. Chemical and Dynamite Glycerine. —Address, "Erasmic," *Chemical Trade Journal* Office Manchester.

CHEMIST desires Situation in Works Laboratory. First-class references. Experience in Mineral Oil and White Lead Works.—Box 72, *Chemical Trade Journal* Office, Manchester.

AMERICAN TRADE: DO YOU WANT IT? Albumen, Barytes, Ceresine, Bleach, Ozokerite, Woolgrease, Sal Ammoniac, &c. If so, kindly address, "New York Commission Broker," "Box P 730, *Chemical Trade Journal* Office, Manchester.

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CHEMICAL BALANCE to be Sold Cheap (Oertling's pattern No 5) by good maker, agate knives and planes with stops. Cost 18 guineas, will take 10 guineas. Apply. "C 310," *Chemical Trade Journal* Office, Manchester.

BLAYDON MANURE AND ALKALI COMP.'S

PURE WHITE SULPHATE OF ALUM
BLANC FIXE, CHLORIDE, NITRATE
AND SULPHIDE OF BARIUM.

UNITED ALKALI COMP.'S

HYPO-SULPHITE OF SODA,

WALTHER FELD & CO.'S

PURE PRECIP. CARBONATE OF BARYTES 9

Also Hydrate and Anhydrous Alumina, Chloride and Carbona Alumina, Aluminate of Soda, Hydrate of Barium, &c.

Agents: JULIUS HULSEN & CO., NEWCASTLE-ON-T

ALL SIZES OF CARBOYS KEPT & KINDS & HAMPERS IN STOCK.

Ground Stoppered Carboys Supplied.

Manlove, Alliott & Co.

ENGINEERS,

NOTTINGHAM

See Advertisement in first is this month.

SAML. MEGGITT & SONS,

Glue, Gelatine, & Size Manufactu

SUTTON-IN-ASHFIELD, NO

(Late BINDLEY & SON, Ltd., SMETHWIC

ANALYSES OF WATER,

OILS, FATS, SOAPS, INDICO, DYES, DYEWARES, &c.

Dr. W. F. LAYCOCK, F.C.S.,

The Chemical Laboratory, 46, Boar Lane, LEEDS.

ALBUMENS, Pastes, Arabic Sol Vegetable and Animal Size, GLUES, PREPARED PITHS, P tated Bone Phosphate, Neatsfo Greases, Manure Materials,

W. KING, Benson St., LIVER

TUBES

IRON and STEEL, and FITTINGS,

for Gas, Water, Steam, Liquid Ammonia and Hydraulic Work. All kinds and sizes—Welded or Rivetted.

Tanks, Pans, and all kinds of Ironwork for Chemical Work.

COILS for heating, super-heating, distilling and refrigerating purposes, to 500 feet long without joints.

JOHN SPENCER, Globe Tube Works, Wednesbury.

BRYAN CORCORAN,

MILLSTONE BUIL

WIRE WEAVER, MACHINE MANU AND GENERAL MILL FURN

Sole Maker of MILBURN Patent Conoidal Stone Grindi

Especially suitable for materials, Wet or D

Works and Warehouse

Back Church Lane. *Parcel Dept.:* Basemen Corn Exchange

31, MARK LANE, LOND

Liverpool: Exchange Chambers, Glasgow: West Campbell-st.

CANNINGTON, SHAW & CO., LIMITED,

CARBOYS.

SHERDLEY GLASSWORKS, ST. HELENS.

WALKER BROS.,

ENGINEERS, PAGEFIELD IRONWORKS,

WIGAN.

WALKERS' PATENT

AIR COMPRESSING ENGINES.

GAS COMPRESSING ENGINES.

150,000 I.H.P. ALREADY AT WORK.

WALKERS' PATENT

EXHAUST AND BLAST FANS.

SPENCE'S

High-Class SULPHATE of ALUMINA.

PETER SPENCE & SONS,

Manchester Alum Works, MANCHESTER.

R. W. GREEFF & CO.,

20, EASTCHEAP, LONDON, E.C.

IMPORTERS OF

PUREST SULPHATE OF ALUMINA.

FLUORIDE OF CHROME (Patented). ANTIMONY SALTS.

TARTAR EMETIC. HYPOSULPHITE OF SODA.

SUGAR OF LEAD, WHITE AND BROWN.

ZINC OXIDE, OXALIC, ACETIC, TANNIC, & SALICYLIC ACIDS, NITRATE & CHLORIDE OF BARIUM, &c.

SPECIALITIES:—

SODA ASH 58%, POTASHES, SALTCAKE, BLEACH, LITHIA SALTS, BORAX, MERCURIALS, SUL. COPPER, PRUSSIATES, CYANIDES, METALS, MINERALS, BRIMSTONE, SULPHUR

Phosphoric Acid, Acetates, Oxalic Acid, Tartaric Acid, Salicylic Acid, Carbolic Acid, Camphor, Stearine, Glycerine, OLEINE

Castor Oil, Olive Oil, Essent. Oils, Glucose, Grape Sugar, Cane Syrup, Treacle, Nitrate of Silver (Pure)

Amidol, Metol, Glycin, Thiocarbamid and other Photographicals, Lumieres, Dry Plates, &c., &c.

IMPORTERS—Commission Merchants—EXPORTERS.

Telephone No. 1060.

FUERST BROS.,

LONDON: 17, Philpot Lane, E.C.

Telegrams—"FUERST, LONDON."

HEADQUARTERS FOR ALL HEAVY OR FINE CHEMICALS,

Pharmaceutical Products,

Photographic Developers,

Drysalteries and Drugs,

Also OILS and PRODUCE.

SAMPLES AND PRICES ON APPLICATION.

CORRESPONDENCE SOLICITED.

Tenders.

TO TAR DISTILLERS.

THE Gas Committee of the Penrith Urban District Council are open to receive Tenders for the Purchase of the Surplus TAR produced at their Gas Works during the twelve months ending June 30th, 1899

Particulars may be obtained from the undersigned, to whom Tenders must be delivered not later than Tuesday June 28th, 1898.

ED. SHAUL,
Manager.

Gas Works, Penrith,
June 15th, 1898.

RADCLIFFE & PILKINGTON GAS COMPANY.

SPENT OXIDE.

THE Directors of this Company invite Tenders for the Purchase of about 200 tons (more or less), of SPENT OXIDE. Samples for testing may be taken from the heap by any intending Purchaser, or will be sent together with particulars, on application to the undersigned

Tenders will be received until Tuesday, July 5th next.

JAMES BRADDOCK,
Manager and Secretary.

Gas Works,
Radcliffe, nr. Manchester,
June 16th, 1898.

Miscellaneous.

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SULPHURIC ACID for SALE—B.O.V., D.O.V., R.O.V., free from Arsenic. Open to buy S'Oxide.—MILNSBRIDGE CHEMICAL CO., HUDDERSFIELD.

WANTED a Chemist, who has had practical experience in Water Softening and in the Treatment of Sewage and Trade Effluents.—Full particulars to "Chemist," *Chemical Trade Journal* Office, Manchester.

WANTED SALT (Sodium Chloride), free from Sulphates.—Apply, stating price delivered Thames in 50 to 100 ton lots, to "Beta," *Chemical Trade Journal* Office, Manchester.

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CHEMIST or Practical Man Wanted, thoroughly experienced in making Granulated Nitrate of Ammonium from Nitrate of Soda and Sulphate of Ammonia; state full particulars, salary required, &c., to "Ammonia," *Chemical Trade Journal* Office, Manchester.

CAOUTCHOUCINE.—Wanted to communicate with the Manufacturers of the above. Please address, "H. K.," 2068, care of Rudolf Mosse, Hamburg.

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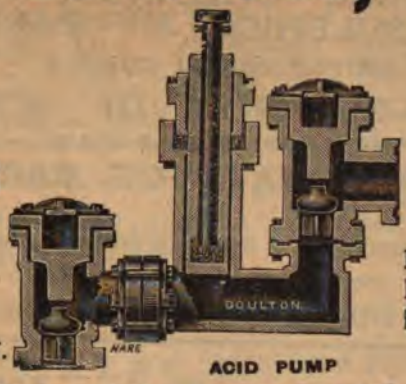

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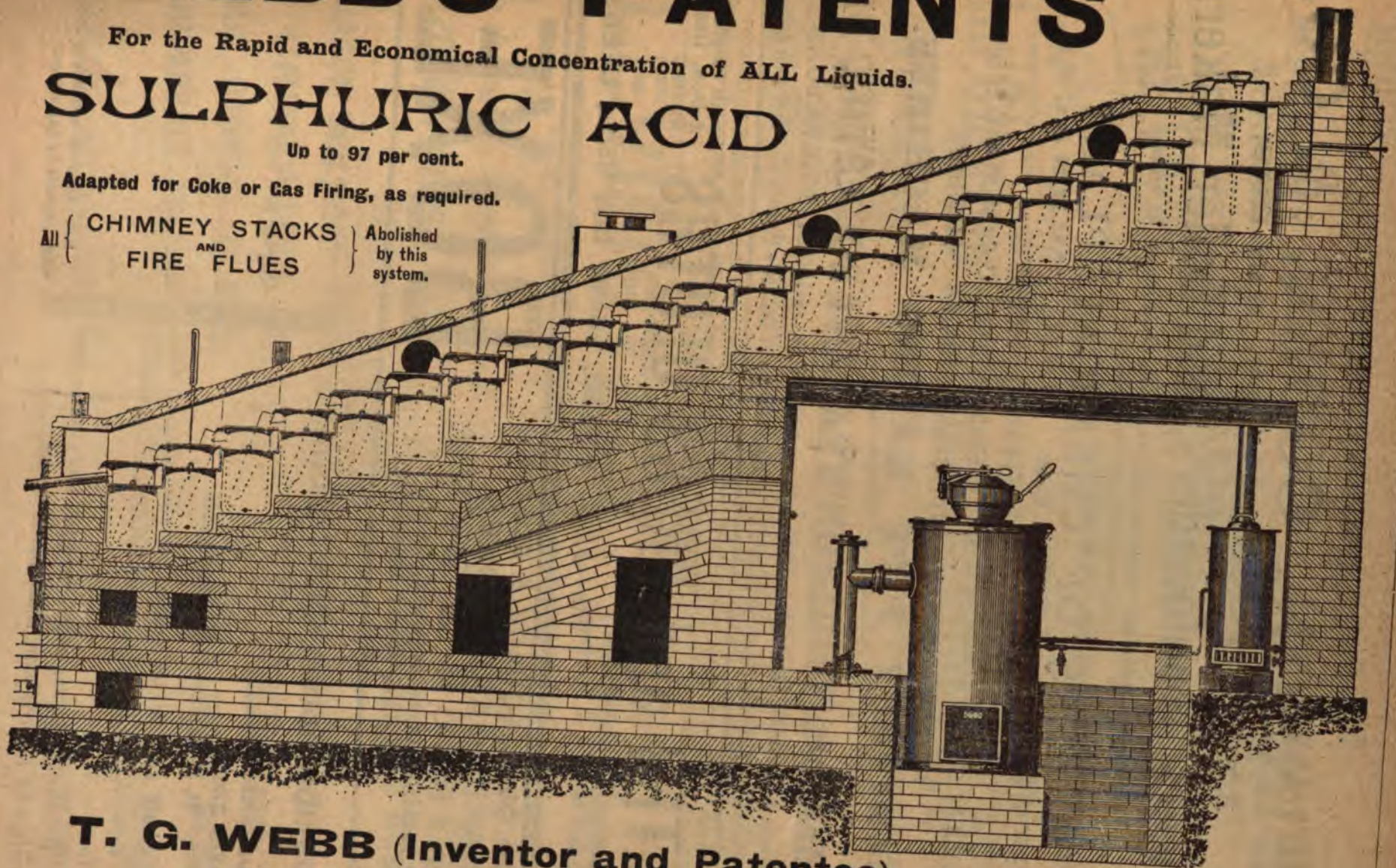

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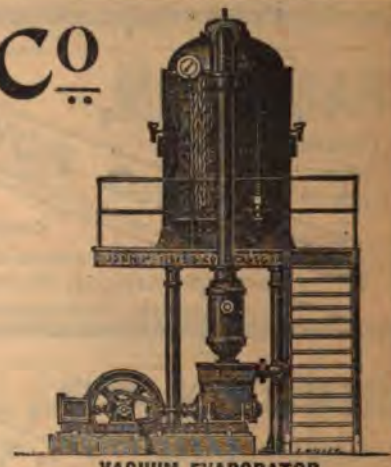

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